

***United States Court of Appeals
for the
District of Columbia Circuit***



**TRANSCRIPT OF
RECORD**

634

United States Court of Appeals
for the District of Columbia Circuit

No. 22262

FILED

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IN THE
United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

JOAN S. NEFF, Administratrix of the Estate of
JOHN W. NEFF, APPELLEE,

v.

UNITED STATES OF AMERICA, APPELLANT.

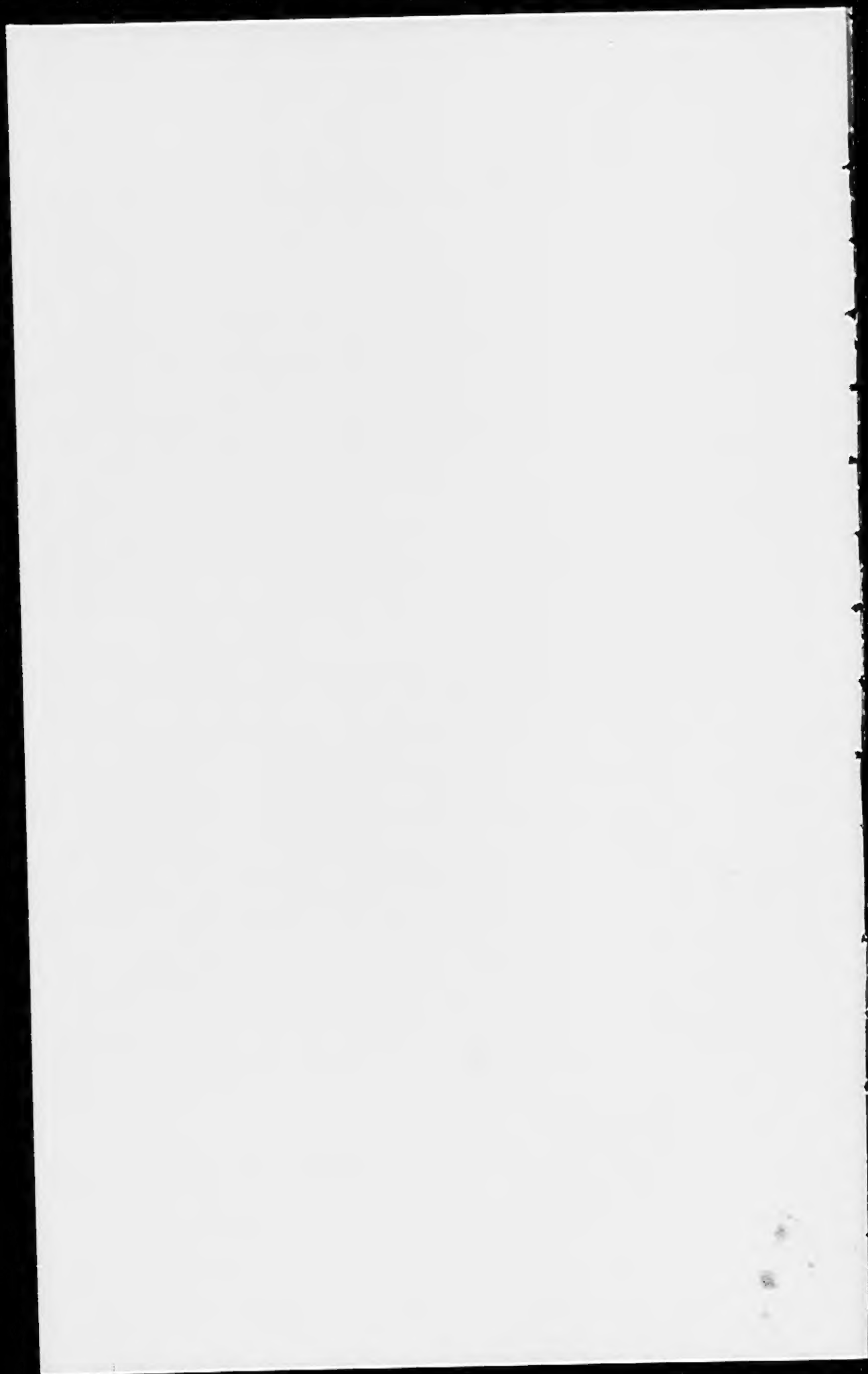
ON APPEAL FROM THE UNITED STATES DISTRICT
COURT FOR THE DISTRICT OF COLUMBIA

APPENDIX



TABLE OF CONTENTS

	Page
List of Relevant Docket Entries	1
Complaint, filed February 11, 1965	3
Answer, filed April 13, 1965	6
Recommendation of PreTrial Examiner, filed July 23, 1965	8
Answers to Interrogatories, filed December 3, 1965	10
Stipulation, filed May 16, 1965	13
Pre-Trial Proceedings, filed June 21, 1967	15
Memorandum Opinion, filed March 28, 1968	20
Judgment, filed April 17, 1968	45
Notice of Appeal, filed June 14, 1968	46
Motion for Extension of Time to Docket Record on Appeal, filed July 10, 1968	47
Order, filed July 10, 1968	49
Appellant's Motion for an Extension of Time to Docket Record on Appeal, filed September 3, 1968	50
Order, filed September 11, 1968	51
Appellant's Motion for an Extension of Time to Docket Record on Appeal, filed October 4, 1968	53
Order, filed October 10, 1968	54
Excerpts from Transcript of Testimony	56
Excerpts from Depositions Pursuant to Defendant's Exhibit No. 3.....	443
Plaintiff's Exhibit No. 33	473
Plaintiff's Exhibit No. 43	475
Defendant's Exhibit No. 9	477
Defendant's Exhibit No. 10	479



1. LIST OF RELEVANT DOCKET ENTRIES

No. 354-65

JOAN S. NEFF, Administratrix of the Estate of
JOHN W. NEFF

v.

UNITED STATES OF AMERICA

Date 1965	Proceedings	
Feb. 11	Complaint, appearance	filed
Apr. 13	Answer of defendant to complaint; c/m 4-13; appearance of David C. Acheson, Charles T. Duncan, Joseph M. Hannon & Arnold T. Aikens & Philip Silverman.	filed
July 23	Recommendation sustaining in part and overruling in part objection of defendant to interrogatories and directing defendant to answer certain interrogatories as re-framed. (AC/N) Assistant Pretrial Examiner	
Dec. 3	Answers of defendant to interrogatories; c/mailling.	filed
May 16	Stipulation of counsel re depositions filed in New York case	filed
Jun. 21	Pretrial Proceedings Pretrial Examiner	
Mar. 28	Memorandum of opinion and Findings of Fact and Conclusions of Law. (N) (Order to be presented 1 wk.) Gesell, J.	

Date
1965

Proceedings

Apr. 17 Order entering judgment for plaintiff against the defendant in amount of \$334,149.21 at 4% per annum up to, but not exceeding, 30 days after date of approval of any Appropriation Act, providing for payment of judgment; directing distribution in accordance with Memorandum of Opinion dated March 28, 1968; awarding \$66,829.84 to attorneys for plaintiff. (N) Gesell, J.

[Caption Omitted]

2. COMPLAINT, Filed February 11, 1965

1. Jurisdiction is founded on 28 U.S.C. §1346, commonly referred to as the Federal Tort Claims Act.

2. Plaintiff is the surviving spouse of decedent John W. Neff, and the mother and next friend of his five minor children, namely:

John W. Neff, Jr.	—Born 9/ 1/57
Karen Regina Neff	—Born 10/15/58
Mari Robin Neff	—Born 12/11/59
Shiela Scott Neff	—Born 8/16/62
Christopher Francis Neff	—Born 11/ 7/63

She is also the administratrix of the estate of said John W. Neff.

3. At all times mentioned hereinafter, defendant United States of America, through its Federal Aviation Agency, operated and controlled certain weather, radar, electronic and radio facilities which were used by or in connection with commercial aircraft using Rochester-Monroe County Airport.

4. On July 2, 1963, decedent John W. Neff was first officer and co-pilot on an airliner of Mohawk Airlines, which airliner was regularly scheduled to depart from Rochester Airport as Mohawk Flight 112 at approximately 4:45 P.M., Eastern Daylight Time. The aircraft used on this flight was a certain Martin 404 aircraft bearing United States Registry No. N449A.

5. As said Mohawk Flight 112 took off from Rochester Airport at or shortly after 4:45 P.M., it was met by a thunder and rain storm approaching the field, and almost immediately after flying into said storm, the wind from said storm caused the plane to crash into the ground on the airport, killing said John W. Neff, and killing and injuring others.

6. Employees of the Federal Aviation Agency, an agency of defendant, the United States, were on July 2, 1963, under a duty imposed by regulations of the United States Gov-

ernment to deny clearance for take-offs to the pilot of any commercial aircraft, such as Mohawk Flight 112, if, under conditions and facilities as they existed at Rochester-Monroe County Airport at the time of the accident, runway visibility for the departure runway was less than one-quarter ($\frac{1}{4}$) mile.

7. The employees and agents of said Federal Aviation Agency who were in control of the tower at Rochester-Monroe County Airport at the time of the crash of Mohawk Flight 112 did negligently grant clearance for take-off to said flight, even though visibility for the departure runway was at the time less than one-quarter ($\frac{1}{4}$) mile.

8. Approximately three minutes before the employees and agents of said Federal Aviation Agency who were in control of the tower at Rochester Airport, gave flight clearance to Mohawk Flight 112 on July 2, 1963, a special weather report warning of exceptionally severe and hazardous weather about to descend on the Rochester-Monroe County Airport area was received in the tower controlled by said Federal Aviation Agency personnel. Said employees and agents of the defendant, however, did negligently fail to forward the contents of said weather report to the crew of Mohawk Flight 112.

9. Under weather conditions existing at Rochester-Monroe County Airport at the time the employees and agents of defendant gave flight clearance to Mohawk Flight 112, said employees were under a duty to close the entire airport but negligently failed to perform this duty and instead of closing the Airport even gave flight clearance to Mohawk Flight 112.

10. As a result of the negligence of defendant's agents and employees, as set forth in paragraphs 7, 8, and 9 herein, and as a result of their negligent operation, control and use of radar, weather, electronic and radio facilities, and in their negligent advice, direction and information to Mohawk Flight 112, said Mohawk Flight 112 crashed, killing decedent John W. Neff.

11. The aforesaid crash and resultant fatal injuries were caused without any negligence or lack of care on the part of decedent John W. Neff contributing thereto.

12. That as a direct and proximate result of the aforesaid negligence of defendant, the decedent John W. Neff was killed, and thereby plaintiff, his widow, was deprived, for life, of his love, affection, consortium and earning power, and his five children, also, were deprived of the love, affection, parental care, guidance and earning power of their father.

WHEREFORE, the premises considered, plaintiff prays on her own behalf, and as next friend of her five children, and on behalf of the estate of John W. Neff, judgment against the defendant in the amount of two million dollars (\$2,000,000).

WHITEFORD, HART, CARMODY & WILSON.

By CHARLES J. STEELE

815 15th Street, N.W.

Washington, D. C. 20005

Attorneys for Plaintiff.

[Caption Omitted]

3. ANSWER, Filed April 13, 1965

Defendant, UNITED STATES OF AMERICA, by its attorney, DAVID C. ACHESON, United States Attorney for the District of Columbia, answering the complaint herein, alleges:

First: The allegations set forth in paragraph "1" of the complaint present questions of law and are respectfully referred to the court for determination.

Second: It is without knowledge or information sufficient to form a belief as to the truth of the allegations set forth in paragraph "2" of the complaint.

Third: Denies the allegations set forth in paragraph "3" of the complaint, except admits the ownership and control of certain air traffic control facilities and equipment at and in the vicinity of the Rochester-Monroe County Airport.

Fourth: Denies each and every allegation set forth in paragraph "4" of the complaint, except admits that on July 2, 1963, JOHN W. NEFF was the first officer on Mohawk Airlines Flight 112 which was scheduled to depart from Rochester-Monroe County Airport at approximately 4:45 P.M., E.D.T. The aircraft used on this flight was a Martin 404 N449A.

Fifth: It is without knowledge or information sufficient to form a belief as to the truth of the allegations set forth in paragraph "5" of the complaint except admits that Mohawk Flight 112 crashed to the ground while attempting to take off.

Sixth: Denies each and every allegation set forth in paragraphs "6", "7", "8", "9", "10", "11" and "12" of the complaint.

FIRST AFFIRMATIVE DEFENSE

Seventh: The crash referred to in the complaint was caused or contributed to by the careless, negligent and wrongful acts or omissions of the First Officer John W. Neff.

SECOND AFFIRMATIVE DEFENSE

Eighth: This court does not have jurisdiction over this defendant in this action for the reason that any claim by plaintiff would fall within the exception to the jurisdiction of this court set forth in paragraph (a) of Section 2680 of Title 28, United States Code.

WHEREFORE, defendant demands judgment dismissing the complaint herein, together with its costs and disbursements and for such other, further and different relief as to this court may seem just and proper.

DAVID C. ACHESON,
United States Attorney.

CHARLES T. DUNCAN,
Principal Assistant United States Attorney.

JOSEPH M. HANNON,
Assistant United States Attorney.

ARNOLD T. AIKENS,
Assistant United States Attorney.

Of Counsel:

MARTIN S. WAGNER,
United States Department of Justice
Washington, D. C.

CERTIFICATE OF SERVICE

I hereby certify that on April 13, 1965, I mailed a copy of the foregoing answer to the attorney for the plaintiff, Charles J. Steele, 815 15th Street, N.W., Washington, D. C. 20005.

PHILIP SILVERMAN,
Trial Attorney
United States Department of Justice.

[Caption Omitted]

4. RECOMMENDATION OF PRETRIAL EXAMINER, Filed
July 23, 1965

Upon consideration of the objections of defendant United States to Interrogatories No. 1, 2, 3, 4, and 5 propounded by plaintiff, the reply of plaintiff to said objections, and oral argument thereon, and it appearing that there is now pending a motion to produce certain documents including all Weather Bureau visibility information at Rochester, New York, on July 2, 1963, it is this 23rd day of July, 1965,

RECOMMENDED that the objection to Interrogatory No. 5 be sustained; and

FURTHER RECOMMENDED that the objections to Interrogatories No. 1 through 4 as framed be sustained, but that defendant be directed to answer said interrogatories re-framed by inserting the following initial unnumbered interrogatory:

"Was the transmissometer at Rochester-Monroe County Airport functioning on July 2, 1963, so as to measure accurately visibility at said Airport and to record accurately such measurements on said date?"

and amending Interrogatories No. 1 through 5 as follows:

"If your answer to the foregoing unnumbered interrogatory is not an unqualified affirmative, answer the following interrogatories:

1. (a) Was the transmissometer which was in said Airport on July 2, 1963, commissioned since said date?
(b) If so, on what date?
2. If the transmissometer referred to in Interrogatory No. 1 has been commissioned since July 2, 1963—
 - (a) Were any modifications made to the *projector* between July 2, 1963, and the commissioning? If so, state what modifications were made.

- (b) Were any modifications made to the *detector* between July 2, 1963, and the commissioning? If so, state what modifications were made.
 - (c) Were any modifications made to the *recorder in the Weather Bureau office* between July 2, 1963, and the commissioning? If so, state what modifications were made.
3. Give the names, addresses and current job stations of all Government employees and the names and addresses of all agents or subcontractors who inspected or worked on said transmissometer between July 2, 1963, and the commissioning.
 4. State the names, addresses, and current job stations (if Government employees), of all persons who installed, inspected, or worked on said transmissometer between January 1, 1962, and July 2, 1963, and state whether they made any written reports or statements in connection therewith."

(Signed) ELIZABETH BUNTEN,
Assistant Pretrial Examiner.

Note: Under Local Civil Rule 9(i)(1) the above Recommendation becomes the order of the Court unless objections thereto are filed within five days in conformity with Rule 9(i)(2).

Copies to Counsel by Mail July 23, 1965.

(s) E.B.

[Caption Omitted]

5. ANSWERS TO INTERROGATORIES, Filed December 3, 1965

Comes now defendant, UNITED STATES OF AMERICA, by its undersigned attorneys, for its answers to plaintiff's interrogatories as modified by the Pre-Trial Examiner, states on information and belief, without conceding the competency, materiality, relevancy or admissibility of the matters contained therein, as follows:

Unnumbered Interrogatory: No. A transmissometer is not designed to measure visibility at an airport. Its purpose is to measure transmissivity along a 500 foot base line at a given point on the approach end of a runway. Accordingly, even if a transmissometer is performing its function accurately, it would not reflect airport visibility.

The transmissometer in question was not commissioned and not in use at Rochester-Monroe County Airport on July 2, 1963. For this reason, there is no way of knowing whether it was performing its function of measuring transmissivity accurately or not. Indeed, no checks of the transmissometer were made on the day of the accident either in the morning or after the accident. Furthermore, there was no observer stationed next to the transmissometer on July 2, 1963, to check his observations with the readings on the instrument.

1. (a) Yes.
(b) September 1, 1963.
2. (a) No.
(b) No.
(c) No.
3. Charles D. Lett, Sr. Electronic Technician WBAS,
Buffalo, New York
Home: 92 Harvey Drive
Lancaster, New York
Robert S. Brauch, Area Electronic Supervisor
WBAS, Buffalo, New York
Home: 179 Amherstdale Road
Buffalo, New York

4. Raymond A. Smith, Electronic Technician

WBAS, Jackson, Mississippi

Home: 519 Marilyn Drive

Jackson, Mississippi

Made routine entries in WB Form 450-10 Electronic Maintenance Log, November 1962—June 1963.

Robert S. Brauch, Area Electronic Supervisor

WBAS, Buffalo, New York

Home: 179 Amherstdale Road

Buffalo, New York

No written reports or statements.

William H. Evans, Construction and Maintenance Representative WB Eastern Region, Jamaica, New York

Made routine construction progress reports.

E. C. Rich, Construction Superintendent

WB Eastern Region, Jamaica, New York

Home: 156 First Avenue

Massapequa Park, New York

Construction inspection and acceptance report.

Tempo Electronics Corporation

701 Washington Street

New York, New York

L. J. Petterson, Superintendent

J. Denaro, Coordinator

No written reports or statements.

JOHN W. DOUGLAS,
Assistant Attorney General,
Civil Division.

JOHN G. LAUGHLIN,
Chief, Torts Section.

By: MARTIN S. WAGNER,
Trial Attorney.

Of Counsel:

DAVID G. BRESS,
United States Attorney.

VERIFICATION

Subscribed and sworn to on information and belief before
me on this — day of December, 1965.

MARTIN S. WAGNER.

_____, _____,
Notary Public.

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Defendant's
Answers to Interrogatories, were mailed, postage prepaid,
this day of December, 1965, to Mr. Charles J. Steele,
Esquire, 815 15th Street N.W., Washington, D. C., 20005,
attorney for plaintiff.

MARTIN S. WAGNER,
Attorney,
Department of Justice.

[Caption Omitted]

6. STIPULATION, Filed May 16, 1966

1. It is hereby stipulated and agreed by and between the parties herein, through their respective attorneys, that the depositions taken in the action *Allan J. Breslau, plaintiff v. Mohawk Airlines, Inc., defendant*, in the United States District Court, Southern District of New York, Civil Action No. 63-Civ-3664, of the following listed witnesses, whose testimony appears on the deposition page numbers indicated, shall be deemed to be depositions in this action as if taken herein:

Witness	Pages
Robert C. Baker	1904-2192
Richard L. Curtis	1412-1654
Robert G. Harrar	2193-2398
Herbert H. Holmes	1076-1159
Donald T. Loudin	3500-3757
Charles J. McIntyre	1655-1903 and 2576-2588
Mary Ann Miara	699-808
Patrick J. Murray	1160-1411
Richard E. Shimel	491-698
Herbert M. Silvera	911-1075
William J. Philier	809-899

2. It is further stipulated and agreed by and between the parties herein, through their respective attorneys, that said depositions may be used in the within action to the same extent as if taken herein as provided by and subject to the requirements of the Federal Rules of Civil Procedure.

3. It is further stipulated by and between the parties herein, through their respective attorneys, that all objections as to the form of questions made by any attorney during the course of the taking of the depositions covered by this stipulation, shall be available to either party to this action as a ground for exclusion of the testimony to which the objection was made to the same extent as though the objection was made by the attorney for that party.

4. It is further stipulated by and between the parties herein, through their respective attorneys, that the signing of the depositions covered by this stipulation by the respective witnesses is hereby waived.

Dated: February 17, 1966, Washington, D.C.

WHITEFORD, HART, CAEMODY & WILSON,

By: CHARLES J. STEELE,
Attorneys for Plaintiff, Joan S. Neff

JOHN W. DOUGLAS,
*Assistant Attorney General,
Civil Division.*

JOHN G. LAUGHLIN
Chief, Torts Section.

By: MARTIN S. WAGNER,
*Attorneys for Defendant,
United States of America.*

[Caption Omitted]

7. PRE-TRIAL PROCEEDINGS, Filed June 21, 1967

Action for damages for wrongful death brought under the Federal Tort Claims Act.

THE PARTIES AGREE TO THE FOLLOWING STATEMENT OF FACTS AND STIPULATE THERETO:

P is the widow of John W. Neff and is the Administratrix of his estate. (U.S. District Court for the District of Columbia, Probate Court, Administration No. 112,881).

P is the mother of the five minor children of John W. Neff. These children, and their birth dates, are:

John W. Neff, Jr.	born 9/ 1/57
Karen Regina Neff	born 10/15/58
Mari Robin Neff	born 12/15/59
Sheila Scott Neff	born 8/16/62
Christopher Francis Neff	born 8/ 7/63

John W. Neff, the deceased husband of P, was born on November 9, 1931. He was employed by Mohawk Airlines on Sept. 20, 1961. On July 2, 1963, he was employed as a First Officer for Mohawk Airlines, and was in good health on that day.

On July 2, 1963, John W. Neff, was on a Mohawk Flight from Ithaca, New York, to Rochester, New York. This Flight left Ithaca on a regularly scheduled flight (FL 115), the aircraft being a twin-engined Martin 404, at 3:08 P.M., Eastern Daylight Time (all time references herein are Eastern Daylight Time.) Mohawk Flight 115 arrived at Rochester-Monroe County Airport at 3:42 P.M., where it terminated. After a one-hour layover the crew was to originate Mohawk Flight 112, scheduled to depart Rochester, in the same Martin 404, at 4:45 P.M.

Shortly after 4:30 P.M. Captain Dennis and First Officer Neff boarded the plane. At approximately 4:30 P.M. the passengers boarded.

As Mohawk Flight 112 taxied out onto the field, American Airlines Flight 453 commenced a take-off from runway 28. It did so safely.

At 4:42 P.M. the U. S. Weather Bureau located at Rochester-Monroe County Airport sent, by Tel-Autograph, a special weather report to the control tower at the Airport. This report was received simultaneously in the tower and was signed off at 4:43 P.M.

At approximately 4:46 P.M. the Rochester Ground Controller, an employee of D, transmitted an air traffic control clearance to Mohawk Flight 112. This Ground Controller is located in the same tower in which the special 4:42 P.M. weather report was received.

At approximately 4:48 P.M., about five to six minutes after the special weather report was received in the tower, a crew member of Flight 112 advised the tower that the flight was ready for take-off. The local controller, an employee of D, then cleared Flight 112 for take-off.

Mohawk Flight 112 commenced its take-off at approximately 4:49 P.M. Shortly after take-off, it crashed, killing First Officer Neff and six others, and injuring still others.

Aboard the aircraft at the time of flight were a three member crew with 40 revenue passengers and as a result of the crash, seven persons aboard, including Dennis and Neff, were killed.

Runway 28 has a concrete surface and is 5500 feet long and 150 feet wide. Following its lift-off, the aircraft contacted the ground 220 feet south of the centerline and 4,668 feet from the threshold (take-off end) of Runway 28. It came to rest 556 feet south of the centerline and 5,022 feet from the threshold (take-off end) of Runway 28.

The decedent was 31 years of age as of July 2, 1963. He was employed by Mohawk Airline, Inc. on Sept. 20, 1961 and had accumulated a total of 3,439 hours flight time, of which 795 hours were in Martin 404 Aircraft.

The P lived in the District of Columbia at the time the suit was filed.

Civil Air Regulation 60.2, as in effect on July 2, 1963, stated, in the pertinent part:

"The pilot in command of the aircraft shall be directly responsible for its operation, and shall have final authority as to the operation of the aircraft."

At all times relevant to this case, including July 2, 1963, defendant owned, operated and controlled air traffic control tower facilities and the U.S. Weather Bureau facilities at Rochester-Monroe County Airport, the scene of the crash.

The transmissometer which was in Rochester-Monroe County Airport on July 2, 1963, was commissioned by agents of D on September 1, 1963.

Agents of D on duty in the tower at Rochester-Monroe County Airport on July 2, 1963, received from the Weather Bureau special weather observation 2042Z. This special observation was received in the tower at approximately 2043Z or 2044Z (4:43 P.M. E.D.T. or 4:44 P.M. E.D.T.). It was first noticed by an agent of D in the tower at 2044Z (4:44 P.M. E.D.T.). The agent of D who first read the special observation after it arrived in the tower was Robert A. Howell.

The special weather observation 2042Z was not relayed directly to the crew of Mohawk Flight 112 by direct tower to crew message. Neither the Ground Controller nor the Local Controller, with whom the crew of Flight 112 was in communication, made a specific transmission directed to Mohawk Flight 112 of the special weather observation 2042Z.

P paid the funeral bill in connection with the funeral of John W. Neff, said bill coming to \$1,172.22.

The Plaintiff claims that on the flight in question, John W. Neff was acting in the capacity of First Officer as he had in the flight from Ithaca to Rochester.

Captain Dennis was the Mohawk pilot in command of the flight and at 4:30 P.M., when the passengers boarded the aircraft, it was not raining.

The Weather Bureau report from Rochester-Monroe County Airport, referred to above, warned of severe weather in the area and indicated the beginning of a thunderstorm in Rochester at 4:40 P.M. To use the language of the Aircraft Accident Report issued by the Civil Aeronautics Board, an agency of D (p. 11), "This special report was not brought to the attention of the pilot."

This weather report was not transmitted to the crew

of Flight 112. While Flight 112 was still over the airport, it entered a thunderstorm, as a result of which, it crashed.

There was in operation at the time of the crash an instrument called a transmissometer. This instrument, owned and operated by D (U.S. Weather Bureau) measured visibility along Runway 28, the runway used by Mohawk Flight 112 in its take-off. This transmissometer, while not formally commissioned at the time of the crash, was subsequently commissioned without alteration or modification. At the time D's employees cleared Flight 112 for take-off, the transmissometer showed visibility along runway 28 to be less than one-quarter mile.

Prevailing visibility at Rochester-Monroe Airport at the time Flight 112 was cleared for take-off by employees of D was under $\frac{1}{4}$ mile.

D's employees in the tower had a far superior vantage point from which to see the thunderstorm's approach, and rate of speed thereof, toward Flight 112 as it was on the airport prior to take-off.

The further claims of the P as to the negligence of the D, the regulations violated by D, the list of injuries and damages claimed, are set out in the statement which is attached hereto, made a part hereof, incorporated herein by reference marked "A".

The Defendant denies any negligence or violations of regulations on its part or on the part of its agents, servants or employees, acting within (or even without) the scope of their employment. Furthermore the D denies the P may recover on the basis that her decedent was contributorily negligent as follows:

Failing to familiarize himself with the available current weather reports and forecasts.

Failing to utilize the radar aboard the aircraft.

Occupying the left-hand pilot's seat and conducting the take-off maneuver.

Attempting the take-off at the time he did and in the manner he did under the weather conditions then existing.

Failure to abort the take-off.

Losing control of the aircraft during the attempted take-off.

A list of the witnesses known to the D is set out in the statement which is attached hereto, made a part hereof, incorporated herein by reference marked "B".

STIPULATIONS

At pretrial the counsel for P indicated he would call as witnesses P and an expert witness named Francis M. McDermott.

The parties agree to file with the Clerk of the Court and to mutually exchange, on or before August 1, 1967, a list of the names and addresses of any witnesses known to them, other than those listed herein, including expert witnesses, who have knowledge of any aspect of this case, indicating those who may be used at the trial. Impeachment witnesses are not to be included.

All documents initialed by Examiner may be admitted in evidence at the trial without formal proof, subject to all legal objections.

The Examiner has requested counsel to appear at trial with the maximum amount of authority to settle this case which will be allowed them by their principals.

_____, _____,
Pretrial Examiner.

RICHARD W. GALIHER, Esq.,
Atty. for P

JOHN F. MURRAY, Esq.,
Atty. Dept. Justice for D

[Caption Omitted]

8. MEMORANDUM OPINION, filed March 28, 1968

This is an action under the Federal Tort Claims Act, 28 U.S.C. § 1346(b)(1964). Plaintiff is the administratrix of the estate of John W. Neff, his surviving spouse and mother and next friend of his five minor children. Neff was the First Officer of a Martin 404 operated by Mohawk Airlines that crashed immediately following takeoff from the Rochester, New York, Airport on the afternoon of July 2, 1963. He was killed in the crash, together with Captain Dennis, the pilot, and some of the passengers. The liability of the United States is based on its operation of the control tower and related weather facilities. It is asserted that the control tower was negligent in authorizing the plane to take off when a thunderstorm was on the field and in failing to provide accurate complete current weather information to the crew after the plane left the ramp. The United States denies any negligence and alleges that in any event plaintiff is barred from recovery by reason of First Officer Neff's contributory negligence. Detailed evidence was taken during a trial lasting six days and the matter was then fully argued and briefed by counsel.

The Rochester Airport control tower was about 40 feet above the ground and had a clear unobstructed view to the east, north and west. Situated on the southern portion of the field, it looked across the field to the north, where the terminal was located. The airport weather station facilities were located at ground level in a building close to the tower and were connected to the tower by an instant "hot line" which made immediate communication either way possible.

The main runway, No. 28, runs approximately east and west halfway between the tower and the terminal. Landings and takeoffs are normally from the eastern end of the runway and such was the case on the afternoon of the accident.

SEQUENCE OF EVENTS

The sequence of events and principal weather developments which occurred on July 2, 1963, preceding the accident, and the general background against which the issues of negligence alleged by both parties must be determined are set forth immediately below.

3:13 p.m. Captain Dennis and First Officer Neff took over the Martin 404, a twin-engine piston-type aircraft, at Ithaca and left for Rochester. There was a line of "quite intense" thunderstorms having the appearance of a "squall line" running NE to SW about 75 miles from Ithaca toward Rochester. Captain Dennis and First Officer Neff were aware of this condition.

3:40 p.m. The plane arrived at Rochester from Ithaca. There was a little more than a one-hour layover at this point before Mohawk flight 112 using the same plane and the same crew was scheduled to originate and depart Rochester at 4:45 p.m. for White Plains, New York, and, ultimately, Newark, New Jersey.

3:50 p.m. The crew went to the Operations Office in the terminal and spent some time reviewing the weather and flight information available.

Mohawk's customer service agent at Rochester spoke to Captain Dennis and First Officer Neff and mentioned an aviation severe weather forecast. All current weather, including a 4:00 p.m. hourly weather report set out below, came to the attention of the crew. Captain Dennis did not seek any additional weather data, relying on what was made available. The following weather reports were posted and known to the crew:

U.S. Weather Bureau

Amended Terminal Forecast #1, circuit 8022,
July 2, 1963 2:45 PM EDT

Valid from 2:45 PM EDT Tuesday to 7:00 PM EDT
Wednesday.

Rochester—ceiling 4,000 feet broken clouds, visibility

7 miles, wind west-southwest 16 knots, scattered thunderstorms. Possible briefly ceilings 500 feet sky obscured $\frac{1}{2}$ mile visibility, heavy thunderstorms, hail, wind from the west at 40 knots with gusts to 65 knots. Chance isolated tornado. 7:00 PM EDT cold front passage. 25,000 feet thin scattered clouds. Winds northwest 10 knots. Occasionally 4,000 feet scattered clouds until 9:00 PM EDT

All Mohawk Stations

Post for Pilots and pass to any flights into areas mentioned.

Weather Bureau severe weather forecast indicates along and 60 miles either side from 60 miles southeast of Buffalo, N.Y. to 50 miles northeast of Burlington, Vt., expect scattered severe thunderstorms with extreme turbulence, hail to $1\frac{1}{2}$ inches in diameter and maximum surface gusts 65 knots. Possibly an isolated tornado or two. Squall line forming in Ontario, Canada to vicinity of Buffalo and Youngstown, Ohio expected to intensify and move east south eastward at 40 knots.

Company pilot reports indicate a line of thunderstorms through western Pennsylvania from north of Johnstown, Pa. extending southeastward and building rapidly. Expect these thundershowers to move eastward. (McIntyre, Flight Control, July 2, 1963, 2:53 PM EDT)

Aviation Severe Weather Forecast

Weather warning Kansas City Urgent Kansas City Forecast number 315 July 2, 3:15 PM EDT

Aviation Severe Weather Forecast Area one [evidence showed Rochester is in Area one]—Tornado forecast

A—Along and 60 miles either side of a line from 60 miles southeast of Buffalo, N.Y. to 50 miles northeast of Burlington, Vt. Valid from 4:00 PM EDT to 10:00 PM EDT. Public forecast issued.

B—Scattered severe thunderstorms with extreme turbulence. Hail to $1\frac{1}{2}$ inches in diameter. Maximum surface gusts 65 knots. Possibility of an isolated tornado or two. Few cumulus buildups maximum tops 6000 feet.

C—Squall line forming in Ontario, Canada to vicinity of Buffalo and Youngstown, Ohio. Expected to intensify and move east-southeastward at 40 knots.

Hourly Sequence Reports

Area Sequences circuit 8022 July 2, 1963

4:00 PM EDT

Rochester—ceiling estimated 5,000 feet broken clouds, higher broken clouds 12,000 feet visibility eight miles 1007.6 millibars of pressure. Temperature 94° F, dew point 66, wind west-southwest 16 knots. Altimeter setting 29.76 inches of mercury.

4:30 p.m. Captain Dennis signed the flight plan for flight 112. The flight plan is not in evidence.

4:40 p.m. Thunder was officially heard at the airport weather station causing Chapman, who was then on duty, to make a special weather observation, set forth immediately below. This may be considered the official beginning of the thunderstorm near the field.

About this time the crew and passengers boarded the aircraft. When flight 112 was being loaded it is not clear to what extent thunder and lightning were noticed at that point on the field. Some passengers and the stewardess heard thunder and saw lightning. All agree that the sky was dark and getting darker. While the wind was generally mild, there were strong gusts from time to time.

Another Mohawk plane coming from Buffalo which had landed at Rochester on runway No. 28 at 4:38 p.m. taxied to a gate near flight 112. The pilot of the incoming flight saw a thunderstorm somewhere to the west that looked like any other storm. He saw no rain or lightning coming in.

4:43 p.m. The first engine of flight 112 was started. Chapman at the weather station of the airport, having heard thunder and seen lightning, made the following special observation, acting pursuant to weather regulations:

TelAutograph Record

Special Observation 4:42 PM EDT

Ceiling estimated 5,000 feet overcast, 8 miles visibility thunderstorm. Thunderstorm northwest moving eastward. Frequent lightning cloud to ground, wind—northwest 18 knots. Observer 4:43 PM EDT

This observation was sent immediately to the tower at about 4:44 p.m. by a device called a TelAutograph, which provides instant reception at the other end. The observation was not passed on to the crew of flight 112 by the tower, as will appear later in more detail.

4:44 p.m. The second engine of flight 112 was started and the crew asked the tower for taxi instructions. At this same moment an American Airlines flight was cleared for takeoff from runway No. 28. This flight's destination was Buffalo. The crew of flight 112 was undoubtedly aware of the takeoff clearance given the American Airlines plane. Flight 112 could have seen the takeoff and could even have heard contacts between the tower and American. There is no way of definitely determining whether this occurred.

4:45 p.m. The American Airlines flight took off from runway No. 28. This was also the time Mohawk flight 112 was scheduled to leave the gate and the plane started to taxi from the terminal to the runup area at the end of runway No. 28, having received the required clearance from the tower.

While taxiing to runway No. 28 rain began to fall and became quite heavy at times so that the plane's windshield wipers were operating. Wind was gusty at times but generally mild. There was a swirl dust storm east of the start of runway No. 28 noticed by one observer not in the plane.

When flight 112 reached the runup position there was

some thunder, rain, and lightning off the field, and a bit of hail had fallen. All of these weather manifestations are typical of thunderstorms.

When flight 112 stopped just off the runway in position to move immediately into takeoff position, the rain was increasing. Runway lights were on. Visibility was still over one-quarter of a mile down the runway from the plane's cockpit. About halfway down the runway, approximately 2,700 feet and almost directly opposite the tower, there appeared to be a dark wall of rain moving from west to east up the runway toward the plane. This could be seen from the plane and the tower.

4:46 p.m. The tower authorized the American Airlines flight, then airborne, to turn westbound to get out of the precipitation.

4:48 p.m. The American Airlines flight advised the tower that it would like to go a little bit further south to get away from chop and permission was granted by the tower.

At the same approximate moment (4:48:41 p.m.) Mohawk 112 was cleared for takeoff on runway No. 28. With the plane still in the runup position, Captain Dennis called the tower stating, "We would like to make a left turn as soon as practicable to avoid those thunderstorms coming in from the west."

At this moment a visibility instrument known as a transmissometer located so as to give readings of runway visibility at about the middle of the runway suddenly recorded a sharp drop from a four-mile visibility reading to an one-eighth of a mile visibility reading. The thunderstorm was on the field. The transmissometer recorded in the weather station. This reading was not observed by Chapman, for reasons that will appear.

4:49:26 p.m. The tower advised Mohawk 112 to make a left turn on course, that wind velocity was 15, and cleared flight 112 for takeoff from runway No. 28 on the revised course requested.

4:50 p.m. Flight 112 moved onto the runway and almost immediately took off down the runway, picking up speed.

The plane was still on the runway when it entered the dark rain wall area opposite the terminal. The plane promptly then left the ground, encountered lateral and vertical turbulence sharply at several intervals commencing at about a 15-foot height, rose to around 100 feet into violent turbulence, tilted left, right, and again left, and went into a semi-nose-up stall and crashed on the airport grounds with its left wing down. The crew made no effort to abort the flight, although this could have been accomplished safely at any time before the plane reached the rain wall.

The plane used for flight 112 was in sound operating condition. It was not overloaded and its instruments, including radar, were in good working condition. It was operated from the proper runway.

It was the thunderstorm which enveloped flight 112 immediately at takeoff that caused the plane to crash. The storm had typical manifestations of thunder, lightning, hail, gusts of wind, and turbulence. The backdraft or eddy, a typical aspect of such storms, contributed. There was an 180° wind change involved which necessarily caused the plane to lose buoyancy. This, coupled with the violent turbulence of the storm, the added weight of the rain and other factors, forced the ship out of control and into a crash, in spite of the combined efforts of the crew.

THE CLAIM OF NEGLIGENCE

The parties have vigorously contested the responsibility of the tower and the crew under the circumstances outlined above. The United States contends that the tower is little more than a traffic policeman operating with almost no discretion and merely applying formal rules designed to govern the movement of outgoing and incoming planes. It is the crew, the United States says, that determines whether and how the flight will be made. Plaintiff asserts that quite the contrary is the case; that the flight is governed by tower instructions from takeoff to landing at destination; that minimum takeoff limits are established by Government regulation, which the crew must obey; and that

the tower has the ultimate responsibility for safety at the time of takeoff, in flight and at landing.

Neither of these positions is completely correct. Our system of air traffic regulation is more sophisticated and better designed to protect the public and to avoid human error than either of the categorical views suggest. Whenever a plane is moving, whether on the ground or in the air, the captain has the final and ultimate responsibility. He is, however, in constant contact with the ground and guided by the Government control facilities located at several points. The pilot can refuse to take off when cleared but cannot take off if not cleared. He can request a different runway or a different routing and, if cleared, can proceed accordingly. If he encounters weather difficulties in route he can ask permission to go in a different direction or to a different level and, again, if cleared, can proceed. Where his various clearance requests are consistent with air traffic regulations and established safety procedures, the United States facilities give the permission he seeks. When permission is not granted for safety or traffic control reasons, the pilot continues to fly under conditions set from the ground.

In short, there is a close working relationship contemplated between the Government-operated tower, control centers and weather facilities on the one hand, and crew on the other. The responsibility is mutual and coordinated at all times. Each, however, has superior knowledge in some respects over the other. The crew knows the condition of the aircraft, its capabilities, and must deal with the unusual and unexpected in flight. The tower, in this age of electronics, has the superior knowledge and capability where questions of traffic control and weather are involved. While crews have weather training and know that "the air is an unforgiving element," those in the tower, who also have weather observation training and who are in instant contact with weather stations in the area, have available more instruments, more information and more weather knowledge. The crew is highly dependent on and relies on accurate and sophisticated weather guidance from the

tower, a responsibility which the Government has undertaken and must fully and completely carry out.

The Government's responsibility is to promote air safety. This responsibility includes a duty to promulgate rules and regulations to provide adequately for safety in air commerce. 49 U.S.C. 1421. A very detailed series of procedures and regulations have been established by the Government under this general delegation from Congress governing the activities of weather stations and tower control personnel. Only a few of many need be cited to illustrate the pervasive and all-inclusive nature of the responsibilities the Government has undertaken in this regard. For example, the Air Traffic Control Manual issued by the Federal Aviation Administration specified, among other things, in Section 352.1 that:

"Whenever storm areas such as apparent thunderstorms, rain showers or squall lines can be discerned on the radar display, information concerning them shall be provided to pilot *when considered advisable* by the controller." (Emphasis supplied).

Similarly, the Facility, Equipment and Operation procedures with respect to visibility reporting procedures include the following two directives:

"471.1 Visibility observation shall be taken from the control tower during periods when the visibility at the usual point of observation is less than 4 miles. Such observations shall be taken by weather station personnel when available, or by control tower personnel when weather station personnel are not available. . . .

"471.5 Visibility observations taken by control tower personnel are considered official as soon as the observation is recorded in the tower. Therefore, such visibility observations *may be transmitted to pilots or aircraft whenever necessary*. . . ." (Emphasis supplied).

The recent decision in *Hartz v. United States*, 10 Av. Cas. 17,606 (5th Cir., 1968), *overruling Hartz v. United States*,

9 Av. Cas. 18,124, on the issue of the duty to warn, is important here. The Court held that the tower's duty is not restricted to the manuals and regulations. The Court said:

"We disapprove the view that the duty of an FAA controller is circumscribed within the narrow limits of an operations manual and nothing more. We approve the view expressed by the Court of Appeals for the Second Circuit in *Ingham v. Eastern Airlines, Inc.*, [10 Avi. 17,122], 373 F.2d 227 (2d Cir. 1967), as follows:

' . . .

'It is now well established that when the government undertakes to perform services, which in the absence of specific legislation would not be required, it will, nevertheless, be liable if these activities are performed negligently.' " (P. 17,608).

See also Indian Towing Company v. United States, 350 U.S. 61, 69 (1955).

While a much fuller and more detailed review of the numerous regulations and procedures could be made, it will serve no purpose. It is apparent that in the area of weather reporting and the related operations of control towers a complete responsibility has been assumed by the Government under terms and conditions that require the exercise of the highest skills to be applied according to exacting and continuously high standards as particular circumstances dictate.

Tragic accidents have occurred from pilot error. Tragic accidents can also occur from weather reporting errors on the part of those on the ground. In neither instance is the fault intentional, but in each situation the responsibility should rest where a clear and significant duty is not performed with reasonable care under the circumstances and the resulting dereliction is the proximate and immediate

cause of a crash. Each airline accident incident must be carefully considered in the light of its particular facts. There is no automatic rule which can fix responsibility on a control tower or a crew where a weather accident occurs.

At Rochester on the summer afternoon of the accident, traffic was very light and there was ample opportunity for the tower to advise flight 112 of all weather developments, unimpeded by any other conflicting priority responsibilities. Tower personnel, moreover, had a substantial advantage over the crew to judge the weather conditions developing on the field. The tower was in a better location to observe the approach of this particular storm coming in from the west because of the tower's height and its favorable position at right angles to the runway, which was the path of the storm's approach. The crew's vision was, at ground level, somewhat impeded by rain on the windshield at an angle that masked the speed of the "rain wall." The crew preparing for takeoff had many immediate duties. The tower had responsibility to check weather and visibility.

A review of facts relating to the operation of the weather station is now pertinent. The personnel at the weather station expected the thunderstorm to hit the field. For this reason Williams stayed overtime to assist Chapman, who took over the shift at the weather station at 4:00 p.m. Knowing that a thunderstorm was expected to hit the field, it was Chapman's responsibility to keep a visual watch and Williams was responsible for tracking storm developments on the weather radar. The radar scope showed a severe thunderstorm nearby, growing in intensity, and approaching the field. At 4:30 p.m., Williams had advised Chapman that the storm was moving at 35+ m.p.h. toward the field and Chapman, who could read weather radar, examined the scope at about this time. At 4:40 p.m., when Chapman took the special observation after he heard thunder and saw lightning, it appeared to him that the storm was four or five miles away. Thus, the information available to him indicated the storm could well hit the field by 4:47 p.m. He had a duty, according to his own testimony, to consult with the tower if he knew something of significance the tower

didn't know. He had this knowledge and didn't report to the tower. Williams, who for some reason was not called as a witness by the United States, did not report the radar information known to him. From 4:45 p.m. to 4:50 p.m., Chapman, pursuant to other duties, was briefing a Navy pilot who had dropped in to get weather information. He kept little if any lookout, although his office looked over the field at ground level and he could see the runway and the progress of the storm's approach. Chapman made no effort to determine whether planes were about to land or take off around this time.

Considerable evidence was taken concerning the transmissometer at the weather station of Rochester Airport. This, as already indicated, is a device for measuring visibility. It is installed at many airports, has proven reliable, and is accurate within narrow margins. The transmissometer at Rochester, which recorded on a panel of instruments in front of Chapman's position, took visibility readings from close to runway No. 28 at about the midpoint of the runway. It was functioning accurately in the weather station at the time of the takeoff. The instrument had been in place for some years but had not been officially commissioned. Weather personnel were under instructions to monitor it for accuracy prior to commissioning. This was being done by Chapman from time to time and he used the instrument as an aid in making his weather observations. The transmissometer had no "readout meter" but could be read by checking a graph. At 4:48 p.m., when the abrupt drop in visibility to about one-eighth of a mile was recorded, flight 112 had not received the revised clearance and had not taken off. Under the official regulations governing air traffic control procedures, "take-off clearance should normally be issued after the aircraft has taxied to the end of the runway-in-use or the run-up area adjacent thereto" and "take-off clearance shall be denied to the pilot of an air carrier or commercial aircraft carrying passengers or property for compensation or hire whenever . . . runway visibility for the departure runway is less than one quarter of a mile." Since the transmissometer had not been officially commis-

sioned, its recorded information could not, under the regulations, be accepted as the official visibility reading. A visual determination of visibility was required of the tower personnel. The one-eighth of a mile visibility reflected on the instrument was not reported to the tower since it was not noted by Chapman, who could have relayed what it showed immediately by "hot line" to the tower. There was time to stop flight 112. Tower personnel were not paying much attention to the weather conditions developing on the field. Alerted by the transmissometer reading, the tower would have visually noted that visibility had sharply changed to below one-quarter of a mile and hence the flight should not be cleared. The crew had been given a much higher visibility report and, in fact, still had visibility from the plane at the end of the runway of more than one-quarter of a mile, although visibility on portions of the entire runway was much less.

Consider now the situation in the tower. Chapman had promptly reported his 4:42 p.m. special weather observation to the tower. Howell, who received the special weather observation TelAutograph message in the tower well in time to pass it on to flight 112, was not concerned with what was going on on the field. He claims not to have known flight 112 was at the gate, or that American was about to take off, and apparently did not look out of the tower except in the most casual way. His duties concerned control of planes in flight and he had a scheduled weather broadcast to make to planes in flight so he completed the broadcast, referring to the special weather observation, without calling the message to the attention of his two colleagues in the tower who were responsible for handling flight 112 on the ground and while it was in its immediate departure flight. His colleagues had not noticed the message when it came in because, for some unexplained reason,¹ all three men in the control tower failed to hear the buzzer which rang two

¹ An electronic repair technician was apparently in the tower cab at these crucial moments, although Howell did not remember this fact. This individual was not called as a witness.

or three times when the message came from Chapman. Thus a message pointing to the existence of a thunderstorm near the field was relayed to planes in flight but not to Mohawk flight 112 then on the field. Experienced pilots would have found the message significant and relied on it in making a decision whether or not to take off.

Thorp, the local controller in the tower, had seen radar echoes reflecting the severe approaching storm when he came on duty at 4:00 p.m. He had seen lightning before giving the initial takeoff clearance. If he had known of the special weather observation he would have relayed the information to flight 112 directly or through ground control. Howell did not bring it to his attention. Suffrin, operating a type of radar used for traffic control in a room below the tower, was in direct touch with tower personnel. Commencing at 4:00 p.m. he saw an intense storm cell approaching the field on his radar. He knew it was going to hit the field, that it was on the field by 4:48 p.m., and immediately imminent before that time. He did not bring this information specifically or otherwise to the attention of the tower. When he approved the revised takeoff clearance he did not convey his radar observations to the local controller, although he knew the thunderstorm had hit the field. It was not his practice to do this. None of the men in the control tower were alert to the changing weather conditions and, indeed, they made *no conscious* effort to look out and observe, relying on the weather station, which also was taking only occasional and casual observations.²

The Government representatives do not admit that they

² The weather-gathering facilities and procedures at Rochester on this day were far from ideal and operating deficiencies may well have contributed directly and materially to the accident. The weather station was undermanned; the transmissometer had not been commissioned because it had no readout meter, thus making it more difficult to use; there was no machine for reading wind gusts, although the wind indicator reflected gusts when observed; a number of entries required by weather reporting procedures were not made, indicating laxness. There was a breakdown in communication between the weather station and the tower.

saw the thunderstorm approach and sweep across the field and up the runway toward the takeoff end of runway No. 28. That this phenomenon occurred cannot be disputed. The storm's progress, identified by a forward wall of rain, was chartered effectively by plaintiff's weather expert based on the reported data and the expert's conclusions, which find strong support in the testimony of neutral observers, are accepted. The short of the matter is that if the Government representatives, particularly those in the control tower, failed to see the storm on the field they were negligent. If they saw it and failed to notify the plane after it left the ramp under the circumstances existing in this case they were negligent.

The Government had a duty to provide the taxiing plane with all significant relevant weather information. This duty existed whether or not specific regulations or operating practices required that particular weather information be transmitted. If the Government had new, significant, and immediate relevant information that might have affected the crew's takeoff decision, and there was opportunity to provide it after the plane left the ramp, then the Government will be held liable, even though the regulation did not explicitly require the information to be transmitted. This is the governing rule that the Court has applied, guided by such cases as *Hartz v. United States*, 10 Av. Cas. 17,606 (5th Cir., 1968). See also *Eastern Airlines v. Union Trust Co.*, 95 U.S. App. D.C. 189, 221 F.2d 62 (1955), and *Indian Towing Co. v. United States*, 350 U.S. 61, 69 (1955).

The Government was negligent in several major respects:

- (1) It failed to advise the crew that the storm was expected to hit the field at takeoff time, as the weather personnel well knew.

- (2) It failed to relay the special weather observation of 4:42 p.m. to the plane before takeoff.

- (3) Personnel in both the weather station and the tower failed to keep an adequate lookout and advise the plane of the diminishing visibility conditions attendant on the approaching storm. They failed to observe and bring the sharp visibility change to the attention of the plane. The

weather visibility at the middle of the runway before takeoff required the tower to cancel the flight in accordance with the controlling regulations.

Each of these lapses alone is sufficient to establish negligence since in each case the information would have had a significant impact on whether the crew would or should take off. These lapses individually and collectively were a proximate and direct cause of the accident. The duty to impart weather information to the plane was clear under the circumstances. This duty was not performed. Even if the visibility did not require cancellation of clearance, the information from the tower might well have caused a delay in takeoff or a refusal to take off and this is sufficient to find the Government negligent. *Ingham v. Eastern Airlines, Inc.*, 373 F.2d 227 (2nd Cir., 1967). Thus, the Government's negligence is clearly established.

THE DEFENSE OF CONTRIBUTORY NEGLIGENCE

The Court now considers the defense of contributory negligence, which would be a total bar under applicable New York law. The United States contends broadly that the crew knew or should have known everything the tower knew or should have known and therefore should not have taken off, even though cleared. Pilots fear and avoid thunderstorms. Mohawk crews had been repeatedly warned of the dangers of taking off or flying in thunderstorms and were trained to avoid thunderstorms if at all possible.

The Martin 404 had a weather radar in the cockpit. The essential purpose of this radar was to observe thunderstorms while the plane was in flight. Mohawk's operating manual required the radar to be tested before takeoff to determine that it was in operating condition. It took about four minutes to warm up the radar. It was impossible and improper to test radar near the terminal for fear of radiation damage or injury to the equipment, but the plane's radar could be tested and actually used while the plane was on the ground so long as it was in an open area such as the end of the runway. In order to use the radar effective,

however, from a ground position it would be necessary to tilt the antenna to cast the beam upward and hence minimize ground clutter. The radar also had to be tuned or focused once in operation. It was not customary for crews to use the radar for thunderstorm detection from the ground, although this could be done. Customarily the radar was warmed up and ready to be turned on as soon as a flight took off. At time of takeoff the crew usually is preoccupied with tower communication, the numerous checks that have to be made and other steps preparatory to takeoff. There is no way of definitely knowing whether the crew of flight 112 used its radar to check the approaching storm. It probably did not. No regulation or operating practice required it to do this.

Cockpit radar was but one of two methods the crew had to obtain more precise information concerning the storm. The customary and usual procedure would have been for the crew to ask the control tower for more information if, when the plane was in the runup position, there was reason for the crew to question the validity of the clearance given in the light of the rain wall down the runway and the other weather manifestations which may have appeared to the crew at the time. This the crew did not do, apparently choosing to rely on what could be seen and what had already been learned by examining the weather observations available.

The United States urges that the crew was negligent in not using its radar from the ground and in not calling the tower. Captain Dennis would have been responsible for any tower communications since he was handling those communications while First Officer Neff handled the immediate takeoff piloting. Either member of the crew could have operated the radar, but, again, it would more likely have been Captain Dennis. The Government's argument on these points is premised on the assumption that the crew did not act as prudent men with reasonable care for their own safety. The difficulty with this argument is that there is no definite demonstration that the crew was sufficiently alerted to the imminence of a thunderstorm on the runway to warrant these extra precautions.

The Court is persuaded by the proof as a whole that neither Captain Dennis nor First Officer Neff would have taken off into the wall of rain some 2,700 feet down the runway if they knew they were taking off directly into the heart of a thunderstorm then hitting the field. A takeoff in heavy rain is not the same as a takeoff into a thunderstorm. The first is not unusual; the latter is dangerous and contrary to sound operating practice.

Thunder and lightning are the indicia of a thunderstorm as distinguished from a rain storm. It is highly questionable that the crew was aware that the rain wall contained a thunderstorm or were aware of the speed of its approach. Engine noises of a piston plane could muffle thunder noise; there were apparently no thunderclaps but only rolling thunder sounds. There was no evidence of lightning on the runway. Lightning may not have been particularly apparent to the crew whose view was adversely affected by the heavy rain on the windshield. It is difficult to judge speed of storms when in a cockpit on a runway.

As far as First Officer Neff is concerned, his seat at the controls on the left of the cockpit provided considerably less opportunity to view or appraise the wall of rain on the runway than Captain Dennis had during the crucial period of the taxi run from the terminal south to runway No. 28. Thus, on all the evidence, the Court concludes that the crew, or at least First Officer Neff, unlike Government weather and tower personnel, was not aware that the thunderstorm was on the field.

If, however, the contention, vigorously advanced by the United States, that the crew should have known a thunderstorm was on the field is accepted, the continuing duty of the tower to advise the crew as to weather conditions must be considered in the light of the last informative message received at the tower from the crew. When the crew before takeoff asked for permission to turn left "*to avoid those thunderstorms coming in from the west*" it was clear that the crew did not realize that the storm was *on the field*. If the tower had been performing its duties with reasonable care there is no question but that the tower personnel would

have known and clearly observed that the violent storm was in fact on the field, that the crew did not realize this fact and was at hazard. There was still opportunity to warn and prevent the impending accident. Thus, while the Court has not accepted the claim of the United States that the crew should have known the storm was on the field, even if this claim is accepted the Government's supervening negligence continued and was the proximate cause of the accident. Prosser, *Torts*, p. 290 (1955 ed.).

This leaves for consideration one final question: whether, upon approaching the rain wall down the runway during takeoff, First Officer Neff should have aborted the flight before it reached or as it reached the rain wall, at which point, under the operating conditions prevailing, takeoff of the flight could have been prevented. Here the relative responsibilities of Captain Dennis and First Officer Neff must be particularly considered. The decision to abort was upon Captain Dennis. The Court makes no conclusion that the flight should have been aborted under the circumstances but the failure to abort the flight cannot be relied on by the United States to establish contributory negligence on the part of First Officer Neff. Captain Dennis had permitted First Officer Neff to fly at takeoff and Neff was occupying the pilot's seat. He was not authorized to do this under company procedures. Captain Dennis still had full command responsibility for the flight at all relevant stages and First Officer Neff was subject to his orders and command. If the takeoff should have been aborted, this was Captain Dennis' responsibility, not First Officer Neff's, and at this crucial juncture of the flight any disagreement by Neff with Dennis' decision would have endangered the flight.

The Court finds that First Officer Neff was not negligent, given his crew responsibilities and the information available to him. The situation as he then saw it did not warrant his taking the extreme step of disobeying Captain Dennis' orders at takeoff. The fact that First Officer Neff had the controls, contrary to company regulation, was not shown to have contributed to the accident in any way. First Officer Neff was experienced in the Martin 404. He exercised rea-

sonable and ordinary care under the circumstances confronting him. Any negligence on the part of Captain Dennis that may have contributed to the accident does not bar plaintiff from recovery and accordingly it is not necessary to deal with this question in view of other findings the Court has made. *Ingham v. Eastern Airlines, Inc.*, 373 F.2d 227, 237 (2d Cir., 1967); *State of Maryland v. United States*, 257 F. Supp. 768, 773 (D.D.C. 1966). The burden of proving contributory negligence is on the United States. There is a well-established presumption that airline pilots act with diligence and due care when their lives are at stake. *Eastern Airlines v. Union Trust Co.*, 95 U.S. App. D.C. 189, 199, 221 F.2d 62, 72 (1955). The Court finds that the United States has not met its burden. First Officer Neff was not contributorially negligent in fact or in law.

DAMAGES

Accordingly, the Court must assess damages. The Federal Tort Claims Act, 28 U.S.C. § 1346(b) (1964), refers to "the law of the place where the act or omission occurred." Both parties are agreed that damages are to be awarded according to New York law. The amount recoverable in an action for wrongful death in New York is governed by section 132 of New York Decedent Estate Law, McKinney's Consol. Laws, c. 13. That section provides:

"The damages awarded to the plaintiff may be such a sum as . . . the court . . . deems to be a fair and just compensation for the pecuniary injuries, resulting from the decedent's death, to the person or persons for whose benefit the action is brought. . . ."

What constitutes "fair and just compensation" depends upon all of the facts in any given case. *Rogow v. United States*, 173 F. Supp. 547 (1959). The main elements to be considered are the age of the decedent, his health, expectations, earning ability, income, the prospect of increase of income, the number, age, and situation of those dependent on him for support, and his disposition to support them

well or otherwise. *Dimitroff v. State*, 171 Misc. 635, 12 N.Y.S. 2d 453 (1939). The precise question is: "What were the probable chances of pecuniary benefit from the continuance in life of the decedent worth under all circumstances?" *Arnold v. State*, 163 App. Div. 253, 148 N.Y.S. 479 (1914).

First Officer Neff was 31 years old when killed on July 2, 1963. He was in good health and had a life expectancy of 71 years. Mrs. Neff, who was 30 years old at the time of her husband's death, has a life expectancy of 76 years. She has five children between the ages of 10 and the youngest of whom was born about a month after the accident.

In order to compute the actual damages to be awarded in this case, the Court has determined the present value of First Officer Neff's expected net earnings after taxes and the present value of the retirement pay he would have received between the ages of 60 and 71. From the sum of these items the amount he would have taken for his own use has been subtracted. In addition, funeral expenses and a sum to represent compensation for loss of parental care and guidance have been added. Having determined the total damage figure, the Court has awarded appropriate portions to Mrs. Neff and to First Officer Neff's five minor children.

First Officer Neff could reasonably have been expected to fly until mandatory retirement at age 60 and steady advancement could be expected. He was in good health and the nature of the industry made his steady progress to captaincy practically certain. The proof shows that First Officer Neff's compensation, which was approximately \$10,000 at the time of the accident, would have increased to \$19,000 by 1967, and thereafter at the rate of six percent a year until captain's pay of \$30,000 was reached in 1975. From 1975 until his retirement in 1992, his pay would have remained at \$30,000. On this basis, First Officer Neff's gross earnings as a pilot would have amounted to \$748,051.

From \$748,051 gross earnings, the Court has deducted a reasonable amount for estimated Federal Income Taxes. Given the size of the gross earnings figure and the fact that the judgment is against the United States, such a de-

duction, albeit imprecise, may properly be made under New York law. See *LeRoy v. Sabena Belgian World Airlines*, 344 F.2d 266 (2d Cir., 1965); *United States v. Sommers*, 351 F.2d 354 (10th Cir., 1965); see also *Cunningham v. Rederiet Vindeggen A/S*, 333 F.2d 308 (2d Cir., 1964); *McWeeney v. New York, N.H. & H.R.R. Co.*, 282 F.2d 34 (2d Cir., 1960), *cert. denied*, 364 U.S. 870 (1960); *Montellier v. United States*, 315 F.2d 180 (2d Cir. 1963); *O'Connor v. United States*, 269 F.2d 578 (2d Cir., 1959). In this case the Court has deducted \$146,816 as estimated Federal Income Taxes.³ As a result, First Officer Neff's net earnings, which is the amount that would actually have been available for support of the entire family, are \$601,235.

Based on actuarial testimony unchallenged by the United States, and using 4-1/2 percent for the first 15 years and 3-1/2 percent thereafter, the present value of the \$601,235 which would have been earned in 1963-1991 is \$301,500.

The evidence showed that at the time of his death First Officer Neff used approximately one-quarter of his earnings for himself. This appears to be a generous figure which

³ The figure of \$146,816 was arrived at in the following manner. Between 1963 and 1975, Neff's average income would have been \$22,300. He would have had the full seven exemptions during this entire period, for the oldest child will not be 21 until 1978, and the youngest until 1985. At present rates (and it was assumed here that Federal Income Taxes would not go down over the period between 1968 and Neff's retirement in 1992), the tax on \$22,300, with seven exemptions and the standard deduction, is \$3568 per year, or \$42,816 for the twelve years.

Between 1975 and 1991, Neff would have been taxed on \$30,000 with an average number of four exemptions (seven until 1978; two after 1985). This would result in a yearly payment of \$6500, or \$104,000 for 16 years. The sum, therefore, of the total tax payments for the period 1963-1975 and 1975-1991 is \$141,816.

Since there was no firm basis for estimating possible deductions from gross income during any of the years prior to Neff's predicted death in 2002, it was felt that the amount which would have been paid as state tax, as well as all taxes on retirement income, could be held to equal the amount of tax savings which would have resulted from deductions.

would not have been sustained as the five children became older. On the other hand, there can be no actual proof that First Officer Neff would have continued to support his children beyond minority. While there is some support for the proposition that a parent will be presumed to spend more on himself after his children reach 21, *O'Connor v. United States*, 269 F.2d 578, 583 (2d Cir., 1959), it would seem that New York has no set rule on such matters. Given the likelihood that First Officer Neff would use less than 25 percent of net earnings when all five children were in school, and given a nationwide trend towards more and longer schooling, the Court has applied a flat 25 percent reduction to \$301,500 in allowing for the amount First Officer Neff would have spent on himself prior to his retirement. It is assumed that Mrs. Neff would have received a like amount during this period.

Reducing \$301,500 by 25 percent, or \$75,375, results in \$226,125 net earnings available to Mrs. Neff and the children prior to First Officer Neff's retirement. Of this amount, \$75,375 shall go to Mrs. Neff and the remaining \$150,750 to the children.

Under New York law, funeral expenses may properly be awarded in a wrongful death action. *Dibble v. Whipple*, 281 N.Y. 247, 22 N.E.2d 358 (1939). The proof shows that \$1,172.21 was spent on First Officer Neff's funeral and that sum will be awarded to Mrs. Neff.

The Court finds that First Officer Neff, had he lived, would have received a pension, or retirement pay, in the amount of \$1,044 a month for the ten years after retirement. Of the total sum of \$125,280, it is assumed that Mrs. Neff would have received 50 percent, or \$62,640. The present value of such an amount is \$17,852 and that sum, too, will be awarded to Mrs. Neff.

Mrs. Neff, then, will recover \$75,375 as her share of net pre-retirement earnings, \$1,172.21 for funeral expenses, and \$17,852 as the present value of one-half her husband's pension. This results in a total award to Mrs. Neff of \$94,399.21.

The only remaining item of damages is loss of parental

care and guidance. Such an award is permitted under New York law and is made directly to the children. *Tilley v. Hudson River R. Co.*, 24 N.Y. 471 (1862).

The proof shows that First Officer Neff was a strong family man and was interested in such fields as antiques and photography. He was a religious man, the family was close and Mrs. Neff has not remarried. As an active pilot, First Officer Neff had more than the usual time given a father to be home and to participate in family life. The children, as a group, had 89 years of minority left to them at the time of the accident and the Court finds that \$1,000 per child year, or \$89,000, is a reasonable figure to compensate the children for the loss of their father's care and guidance. *Rogow v. United States*, 173 F. Supp. 547, 562 (1959); *Moore-McCormack Lines, Inc. v. Richardson*, 295 F.2d 583, 588 (2d Cir., 1961).

The children as a group will recover \$150,750 as their share of net pre-retirement earnings, and \$89,000 for loss of parental care and guidance. The total sum of \$239,750 will be apportioned as follows:⁴

- 17 percent, or \$40,757.50, to John Neff
- 18 percent, or \$43,155.00, to Karen Neff
- 19 percent, or \$45,552.50, to Mari Neff
- 22 percent, or \$52,745.00, to Shiela Neff
- 24 percent, or \$57,540.00, to Christopher Neff.

The Court assumes and directs that expenses of the law suit, including attorneys' fees, shall be divided proportionate to the amounts they take among Mrs. Neff and the individual children. The Court suggests that a guardian or guardians immediately be appointed for the children.

Judgment for the plaintiff in the amount of \$334,149.21.

⁴ The percentage figure assigned each child was arrived at in the following manner. In July, 1963, John was 70 months old; Karen, 57; Mari, 43; Shiela, 11; and Christopher, 0. Therefore, John had 132 remaining months of minority; Karen, 195; Mari, 209; Shiela, 241; and Christopher, 252; for a total of 1079. John's 182 months is 17 percent of 1079 months, and so forth through all five children.

Costs shall be taxed against the United States, 28 U.S.C. § 2412 (1964), and interest shall run from the date of judgment.

This Memorandum Opinion shall constitute the Court's findings of fact and conclusions of law under Rule 52, Federal Rules of Civil Procedure. Counsel shall settle an appropriate order within seven days.

_____, _____,
United States District Judge.

March 28, 1968

[Caption Omitted]

9. JUDGMENT, Filed April 17, 1968

These causes having come on for hearing at this term of court, it is by the Court this 17th day of April 1968,

ORDERED that judgment be and it hereby is entered in favor of plaintiff against the defendant in the amount of \$334,149.21, with interest to run from the date of entry of this judgment at the rate of 4% per annum, up to, but not exceeding, 30 days after the date of approval of any Appropriation Act providing for the payment of this judgment; and it is

FURTHER ORDERED that distribution of this judgment shall be made in accordance with the Memorandum Opinion of the Court dated March 28, 1968; and it is

FURTHER ORDERED that attorneys' fees of \$66,829.84, which sum constitutes twenty percent (20%) of the amount of the judgment herein, be and hereby are awarded to the attorneys for the plaintiff, the Court having heard testimony and finding such fee to be reasonable.

/s/ GERHARD GESELL
United States District Judge.

No Objection as to Form

/s/ RICHARD W. GALIHER.
/s/ CHARLES J. STEELE,
Attorneys for Plaintiff.

/s/ JOHN F. MURRAY,
Attorney for Defendant.

[Caption Omitted]

10. NOTICE OF APPEAL, Filed June 14, 1968

Notice is hereby given this 14th day of June, 1968, that defendant United States of America hereby appeals to the United States Court of Appeals for the District of Columbia from the judgment of this Court entered on the 17th day of April, 1968 in favor of plaintiff against defendant United States of America.

KATHRYN H. BALDWIN,
Department of Justice
Attorney for
Defendant, United States of America.

Serve:

CHARLES J. STEELE, ESQUIRE,
Whiteford, Hart, Carmody & Wilson,
815 15th Street, N.W.,
Washington, D. C. 20005,
Attorney for Plaintiff.

[Caption Omitted]

11. MOTION FOR EXTENSION OF TIME TO DOCKET RECORD ON
APPEAL, Filed July 10, 1968

Comes now the United States, by its attorneys, and moves the Court for an extension of time of fifty (50) days within which to docket the record on appeal in the above-entitled case, to and including the 12th day of September, 1968.

In support of this motion the Government states that judgment was entered in this case on April 17, 1968, that notice of appeal was filed on June 14, 1968, and that pursuant to Rule 73(g) of the Federal Rules of Civil Procedure, the record on appeal is now due for docketing not later than July 24, 1968. Subsequent to the entry of the Court's Memorandum Opinion but prior to the entry of the judgment in this case, counsel for the Government ordered a copy of the transcript of testimony in anticipation of an appeal. However, the court reporter has not yet completed the transcript.

WHEREFORE, the United States respectfully requests that this motion for an extension of time within which to docket the record on appeal, to and including the 12th day of September, 1968, be granted.

/s/DAVID G. BRESS,
U.S. Attorney.

/s/FRANK Q. NEBEKER,
Asst. U.S. Attorney.

CERTIFICATE OF SERVICE

I hereby certify that on this 10th day of July, 1968, I mailed, postage prepaid, a copy of the above and foregoing Motion for Extension of Time to Docket Record on Appeal to counsel for appellee as follows:

Charles J. Steele, Esquire
Whiteford, Hart, Carmody & Wilson
815 15th Street, N. W.
Washington, D. C. 20005

Richard W. Galiher, Esquire
1215 19th Street, N. W.
Washington, D. C. 20036

/s/ FRANK Q. NEBEKER,
Asst. U.S. Attorney.

[Caption Omitted]

12. ORDER, Filed July 10, 1968

The Court having considered the motion of the United States for an extension of time to docket the record on appeal in the above-entitled case, and being satisfied that good cause therefor exists, it is hereby

ORDERED, That the time for docketing the record on appeal in this cause be extended to and including the 12th day of September, 1968.

Dated this 10 day of July, 1968.

_____, _____,
United States District Judge.

[Caption Omitted]

13. APPELLANT'S MOTION FOR AN EXTENSION OF TIME TO
DOCKET RECORD ON APPEAL, Filed September 3, 1968

Comes now appellant, the United States, by its attorneys, and moves the Court for an extension of time to and including the 14th day of October, 1968, within which to docket the record in the above-captioned case.

In support of this motion appellant states that judgment was entered in this case on April 17, 1968, and that prior thereto but subsequent to the rendition of the district court's opinion, Government trial counsel ordered a copy of the transcript of the testimony. The case is an important Federal Tort Claims Act aviation case with judgment against the United States in the approximate amount of \$335,000. Government counsel was advised that there was a necessary delay in the preparation of the transcript of the testimony and, accordingly, sought and received an extension of docketing time to the limit of the district court's jurisdiction. That time expires on September 12, 1968.

In the interim, volumes I, II, V, VI, and VII of the transcript have been completed. However, volumes III and IV, covering almost 400 pages, have not been delivered. Upon inquiry, counsel was advised that this portion of the transcript was reported by a reporter who was ill and has retired, and that efforts were being made to have her notes on uncompleted transcripts transcribed by another reporter. We are now advised that the missing parts of this transcript have just been completed and are ready for delivery. However, after receipt of those parts, we shall then need time within which to work on that portion of the transcript before docketing the case.

Government counsel is authorized to state that opposing counsel has no objection to the granting of this motion.

WHEREFORE, the Government moves the Court for an extension of time to and including the 14th day of October, 1968, within which to docket the record in the above-captioned cause.

Respectfully submitted,

/s/ JOHN C. ELDRIDGE

/s/ KATHRYN H. BALDWIN

Attorneys,

Department of Justice,

Washington, D.C. 20530.

This Motion is Hereby Granted. D.L.B., Chief Judge.
Dated Sep. 11, 1968.

IN THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT
OF COLUMBIA CIRCUIT

No. 22262

JOAN S. NEFF, Administratrix of the Estate of
JOHN W. NEFF, APPELLEE

v.

UNITED STATES OF AMERICA, APPELLANT.

CERTIFICATE OF SERVICE

I hereby certify that on this 3rd day of September, 1968,
I mailed, postage prepaid, a copy of the above and fore-
going Appellant's Motion for an Extension of Time to
Docket Record on Appeal to counsel for appellee as follows:

Charles J. Steele, Esquire
Whiteford, Hart, Carmody & Wilson
815 15th Street, N.W.
Washington, D. C. 20005

Richard W. Galiher, Esquire
1215 19th Street, N.W.
Washington, D. C. 20036

/s/ KATHRYN H. BALDWIN,
Attorney,
Department of Justice,
Washington, D. C. 20530.

[Caption Omitted]

14. APPELLANT'S MOTION FOR AN EXTENSION OF TIME TO
DOCKET RECORD ON APPEAL, Filed October 4, 1968

Comes now appellant, the United States, by its attorneys, and moves the Court for an extension of time of ten (10) days, to and including the 24th day of October, 1968, within which to docket the record in the above captioned case.

In support of this motion appellant states that by order of this Court dated September 11, 1968, an extension of time was granted for the docketing of this case to and including the 14th day of October, 1968, due to the fact that there was a delay in the preparation of middle volumes III and IV of the transcript of the testimony because of the illness and retirement of the reporter who took such testimony. That portion of the transcript has not been transcribed by a different reporter, and because of this, a conference has been arranged between the presiding trial judge and trial counsel for the purpose of going over those two volumes of the transcript and making any necessary corrections.

In view of this, an additional period of time is needed within which to reach agreement on any corrections in these volumes and to permit the reporter to make the necessary corrections and file the originals before we docket this record. Counsel for appellee has authorized us to state that he agrees that such additional time is needed, and that he has no objection to the granting of this motion.

WHEREFORE, the Government moves the Court for an extension of time of ten (10) days, to and including the 24th day of October, 1968, within which to docket the record in the above captioned cause.

Respectfully submitted,

/s/ JOHN C. ELDRIDGE,
/s/ KATHRYN H. BALDWIN,
Attorneys,
Department of Justice
Washington, D. C. 20530.

[This motion is hereby granted. D.L.B., Chief Judge,
dated October 10, 1968.]

IN THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT
OF COLUMBIA CIRCUIT

No. 22262

JOAN S. NEFF, Administratrix of the Estate of JOHN W.
NEFF, APPELLEE,

v.

UNITED STATES OF AMERICA, APPELLANT

CERTIFICATE OF SERVICE

I hereby certify that on this 4th day of October, 1968,
I mailed, postage prepaid, a copy of the above and foregoing
Appellant's Motion for an Extension of Time to Docket
Record on Appeal to counsel for appellee as follows:

Charles J. Steele, Esquire
Whiteford, Hart, Carmody & Wilson
815 15th Street, N. W.
Washington, D. C. 20005

Richard W. Galiher, Esquire
1215 19th Street, N. W.
Washington, D. C. 20036

/s/ KATHRYN H. BALDWIN,
Attorney,
Department of Justice,
Washington, D. C. 20530.

15. EXCERPTS FROM TRANSCRIPT OF TESTIMONY

* * * * *

[Tr. 23] Q. Would you state your full name and address for the record, please.

A. My name is Joan Neff. I live at 5720 Chevy Chase Parkway, Northwest, Washington, D. C.

Q. And are you the wife and the Administratrix of the estate of John W. Neff, who was killed in the crash of a Mohawk air liner on July 2, 1963?

[Tr. 24] A. Yes, I am.

* * * * *

Will you tell us what your birth date is?

A. August 6, 1932.

Q. Can you tell us the birth date of your husband, John W. Neff?

A. November 9, 1931.

Q. How many children did you and John Neff have?

A. We had four children and I was pregnant with our fifth child at the time of his death.

Q. Are all five children still living?

A. Yes, they are.

Q. Are you supporting all five?

A. Yes, I am.

* * * * *

[Tr. 26] Q. Did there come a time when he began to fly for Mohawk Airlines?

A. Yes, he began in September of 1961.

* * * * *

[Tr. 27] Q. Now, have you been able to estimate what percentage of your husband's income he spent on himself as opposed to you and the children?

A. I would say about a fourth of his income. Jack's pay checks from Mohawk Airlines were sent directly to our bank, and I took care of the household moneys, and

whatever he needed at the time he wrote a check for. But I handled the money.

Q. Mrs. Neff, did you and your husband take vacations while you were married?

A. Yes. My parents had a house on the ocean down in Sussex Shores. I used to go down—Jack used to take me down for a few weeks every summer, depending upon when the baby was due. I usually went early in the summer.

Q. Were these vacations with the children?

A. Oh, yes. Oh, my, they loved it.

* * * * *

[Tr. 28] Q. Did you and your husband spend much time together?

A. Oh, yes, every time he was home. He was a very family-oriented man. He came home as often as he could. His family was his center really.

* * * * *

[Tr. 29] Mrs. Neff, was your husband in good health at the time you married him?

A. Oh, yes, he was a very healthy man, very.

Q. Was he in good health on July 2, 1963?

A. I am sure he was.

* * * * *

[Tr. 40] The COURT: Is this part of the testimony going to the question of whether the plane was in sound operating condition? Is that an issue?

Mr. GALIHER: There is no issue as to that.

The COURT: Is there any issue between the parties as to that?

* * * * *

[Tr. 44] (Whereupon the following excerpts were read from the Deposition of Herbert Silvera, Mr. Galiher reading the questions and Mr. Steele reading the answers.)

"Question. What is your name and home address?

"Answer: Herbert Silvera, 29 Lawrence Place, Freehold, New Jersey.

"Question: By whom are you presently employed, sir?

"Answer: Mohawk Airlines.

"Question: In what capacity?

"Answer: As a captain.

"Question: On July 2nd, 1963, by whom were you employed?

"Answer: Mohawk Airlines.

"Question: In the same capacity, as a captain?

"Answer: Yes.

"Question: For how long have you been employed by Mohawk?

"Answer: Since 1955."

Mr. GALIHER: Skipping.

"Question: On July 2nd, 1963, were you the [Tr. 45] pilot in command, the captain of Mohawk Flight 115 from Idlewild to Ithaca, New York?

"Answer: Yes."

Mr. MURRAY: May I just interject with the suggestion that counsel give us the page number, so we can follow?

Mr. GALIHER: 918.

"Question. Did you on that flight use the Martin 404 aircraft which had the Registry No. N449A?

"Answer: Yes.

"Question: That, you have learned subsequently, was the same plane involved in the accident at Rochester's Monroe County Airport on July 2nd?

"Answer: Yes."

Mr. GALIHER: Skipping. Page 920.

"Question: Were all of the radio communication facilities aboard the aircraft working properly?

"Answer: Yes.

"Question: Was that aircraft equipped with radar?

"Answer: Yes.

"Question: Was the radar operating properly?

"Answer: Yes.

[Tr. 46] "Question: Rather than going down each item of equipment aboard the aircraft, is it fair to state that the aircraft, as then equipped, was functioning the way it was designed to function?

"Answer: Yes.

"Question: And there were no problems which would affect the safety or ability of the aircraft to function properly?

"Answer: No, there were not.

"Question: At approximately what time did your aircraft land at Ithaca?

"Answer: 1452."

Mr. GALIHER: That is Page 921. Excuse me.

"Question: Which is 2:52 p.m.?

"Answer: 2:52 p.m., Eastern Standard Time."

Mr. GALIHER: Skipping, Page 922:

"Question: Does this log have an entry reflecting the time the aircraft departed from Ithaca for Rochester?

"Answer: It does.

"Question: What time was that as reflected by the log?

"Answer: They took off at 3:13.

[Tr. 47] "Question: Did you have your radar equipment in operation during the flight from Idlewild to Ithaca?

"Answer: Only a portion of it.

"Question: Which portion, sir?

"Answer: The last ten minutes.

"Question: During the last ten minutes preceding landing at Ithaca; is that correct?

"Answer: That is correct.

"Question: You were trained to use radar equipment when installed aboard an aircraft?

"Answer: Yes."

Mr. GALIHER: The bottom of that page now.

"Question: During your last ten minutes of flight, did you see any returns or information displayed on your radarscope?"

"Answer: I did.

"Question: Was your radarscope at the time fixed for a certain range?"

"Answer: Yes, 150 miles.

"Question: So that by that your aircraft radar was capable of transmitting a beam, a radio beam, for a distance of 150 miles, and receiving a [Tr. 48] return from whatever that beam contacted, which would then display some information on your radarscope; is that essentially the description?"

"Answer: Yes.

"Question: Did you on your radarscope see returns during the last ten minutes of your flight?"

"Answer: I did.

"Question: Did those returns indicate to you the presence of something within 150 miles away from you?"

"Answer: They did.

"Question: What was the something that the returns depicted?"

"Answer: Well, to the best of my knowledge, I'm not sure I have ever seen a squall line on a radar, but I interpreted what I did see to be a squall line."

Mr. GALIHER: 926, the bottom of the page, gentlemen.

"Question: Did you see during the last ten minutes of your flight on your radarscope a return indicating evidence of precipitation?"

"Answer: I did.

"Question: Were you familiar at the time with term, 'squall line'?"

[Tr. 49] "Answer: Yes."

Mr. GALIHER: 930.

"Question: And a squall line?

"Answer: A squall line I would interpret to be a continuous line of thunderstorms exceeding 100 to 150 miles in length.

"Question: Were you familiar with the term, 'cumulo-nimbus clouds'?

"Answer: Yes.

"Question: What was your understanding of that term?

"Answer: Well, a cumulo-nimbus cloud would be——

"Question: Is that a thunderstorm?

"Answer: Yes."

Mr. GALIHER: 932.

"Question: What opinion did you form at that time with regard to what those returns indicated?

"Answer: I thought it was a squall line."

Mr. GALIHER: 933.

"Question: So to put it another way, there was a radio-radar transmitter in the nose of the aircraft?

[Tr. 50] "Answer: That is correct."

Mr. GALIHER: 941.

"Question: Would you attempt to be a little more specific as to the degree of intensity of the radar returns you observed during the last ten minutes of your flight approaching Ithaca?

"Answer: They looked fairly severe."

Mr. GALIHER: Page 942, next page.

"Question: Did you during the last ten minutes of your flight observe with your naked eye any line squall to the northwest?

"Answer: No."

Mr. GALIHER: 955.

The COURT: May I interrupt a minute there.

How far is Ithaca from Rochester, approximately?

Mr. GALIHER: I would say, Your Honor, that it is about 75 or 80 miles.

Is that a fair description?

Mr. MURRAY: Around 50 to 70, I would say.

The COURT: And what direction from Ithaca is Rochester?

Mr. MURRAY: I believe it is to the northwest direction.

[Tr. 51] Mr. GALIHER: Northwest.

The COURT: And that testimony was that he did not see with his naked eye any squall conditions to the northwest, is that correct?

Mr. GALIHER: Yes, sir. That is on 942.

The COURT: And you think the distance is about 100, 150 miles?

Mr. GALIHER: Less than that.

Mr. SILVERMAN: Less than that. I think the average is 50 to 75.

The COURT: Fifty to 75. Thank you.

Excuse the interruption.

Mr. GALIHER: The next will be on Page 984, Mr. Murray.

“Question: When you landed your aircraft and deplaned at Ithaca, will you tell us what you said to Richard Dennis and what he said to you?

“Answer: To the best of my recollection, I told him that I had seen some thunderstorms ahead towards Rochester. He asked me if I thought he could get under them. I said I didn’t actually see the storms, only see them on radar and I don’t know how close to the ground they were.

[Tr. 52] “Question: Have you finished your answer?

“Answer: Yes, I’m sorry.

“Question: Did you say anything to Richard Dennis concerning the degree of intensity of what you observed on your radarscope?

“Answer: Yes, I believe I said that they were pretty

severe or quite intense. I couldn't be more specific than that.

"Question: Did you, in your conversation with Richard Dennis, mention any squall line?

"Answer: Well now, I don't know for sure if I mentioned it to him, but if you read the testimony you will see I did say something about squall lines. Even in there I don't know that I actually mentioned it to him."

Mr. GALIHER: Next page, gentlemen, 986.

"Question: You have testified earlier, sir, that you had observed on radar returns which you interpreted at that time to be a line of thunderstorm activity.

"Answer: Yes.

"Question: Did you, in your conversation with Richard Dennis on the ground at Ithaca, [Tr. 53] describe to him the line of thunderstorm activity that you concluded existed by virtue of your radar returns?

"Answer: Yes.

"Question: So, to be specific, you don't recall using the words, 'squall line'; is that correct?

"Answer: That is correct.

"Question: But you do recall describing to him a line of thunderstorms which you have defined here as a squall line?

"Answer: Yes."

Mr. GALIHER: Next page, gentlemen.

"Question: Did you, in your conversation with Richard Dennis, advise him of the lateral distance from left to right of this line of thunderstorms?

"Answer: Yes.

"Question: What lateral distance did you advise him it existed over?

"Answer: Well, I believe——

"Question: Approximately.

"Answer: I said that it extended from northeast to southwest, and was approximately 80, 75 to 80 [Tr. 54]

miles in the front of the aircraft and away from Ithaca, 75, 80 miles."

Mr. GALIHER: 989.

"Question: All right, to put it in the context, you testified earlier that you had observed, while your aircraft was on the runway at Ithaca, radar returns to the southwest approximately 150 miles away. Do you recall that testimony?

"Answer: Yes."

Mr. GALIHER: Next page:

"Question: In your conversation with Richard Dennis, did you advise him of that portion of what you had observed?

"Answer: I told him I had observed thunderstorms of a fairly severe intensity like from northeast to southwest, approximately.

"Question: Northwest to northeast?

"Answer: Yes, the line running from the northeast to the southwest that ran off the scope, about 150 miles to the southwest, and the storm directly ahead of the aircraft was from 75 to 80 miles away.

"Question: Sir, I am now referring to your [Tr. 55] earlier testimony where you described observing in the direction of southwest from your position on the runway radar returns running off your scope at the 150 mile marker.

"Answer: Yes."

Mr. GALIHER: 993, bottom of the page.

Question: What time, approximately, did this conversation take place?

"Answer: 3:00 o'clock.

"Question: This would be 3:00 p.m.?

"Answer: 3:00 p.m."

Mr. GALIHER: 996.

"Question: How far away was the closest radar return to your aircraft that you observed that day?

"Answer: Seventy-five to 80 miles.

"Question: This is when you were on the ground at Ithaca on the runway?

"Answer: "Yes."

Mr. GALIHER: 1021.

"Question: What prompted you to turn on the radar?

"Answer: My overhearing a conversation of another aircraft with Air Traffic Control. The [Tr. 56] other aircraft was requesting different routing to Buffalo to circumnavigate thunderstorms."

Mr. GALIHER: 1025.

"Question: So then on the basis of what you observed on your radarscope, the leading edge of the thunderstorm precipitation could have been as much as 20 nautical miles or 24 statute miles away from Monroe County Airport; is that correct?

"Answer: That is correct.

"Question: And this is at approximately 3:00 p.m.?

"Answer: That's correct."

.

[Tr. 57] "Question: Referring to this paragraph concerning withholding of take-off clearance, it states, does it not: That Air Traffic Control shall deny take-off to any air carrier or commercial aircraft operated with passengers aboard for hire when the prevailing visibility for the airport of departure is less than a quarter of a mile, and putting aside other references to the runway visibility and the runway visual range visibility. Is that correct?

"Answer: Yes."

Mr. GALIHER: 1070.

"Question: Your conversation with Captain Dennis at Ithaca took how long in point of time?

"Answer: Less than five minutes.

"Question: Aside from personal greetings what were you talking about?

"Answer: Thunderstorms observed on the radar.

"Question: Could you give us your comparison of the size of this thunderstorm activity that you were observing compared to others that you observed [Tr. 58] in your business?

"And in answer to that question did you give this answer:"

Mr. GALIHER: Referring to previous testimony at the CAB hearing.

"Answer: Well, I had never observed a squall line on radar before and I thought it was about the worst thing I had seen as far as severity goes."

"Was that question put to you and did you give that answer?

"Answer: Yes."

[Tr. 59] Mr. GALIHER: At this time, Your Honor, the Plaintiff would like to offer portions of the Deposition of William J. Philler, P-h-i-l-l-e-r.

[Tr. 60] "Question: Please state your full name for the record.

"Answer: William J. Philler, 58 Town and Country Court, Utica, New York.

"Question: By whom are you employed presently?

"Answer: Mohawk Airlines.

"Question: In what capacity?

"Answer: As First Officer."

Mr. GALIHER: The next page.

"Question: Were you the First Officer aboard Flight 186 which departed Buffalo and landed at Rochester on July 2nd, 1963?

"Answer: I was."

Mr. GALIHER: 816.

"Question: On the basis of your recollection having been refreshed by this document, would you tell us now at approximately what time Flight 186 did touch down at Rochester?"

"Answer: At approximately 4:38 p.m.

• • • • •

[Tr. 61] Mr. GALIHER: 821.

"Question: Approximately how far away from the boundaries of Monroe County Airport was this thunderstorm during your final approach to Rochester?"

[Tr. 62] "Answer: I have no way of knowing that."

Mr. GALIHER: At the bottom of the page:

"Question: In which direction was the wind at the time of your final approach on landing at Rochester?"

"Answer: The wind, as I recall, was generally favorable to landing on Runway 28.

"Question: And a wind favorable on Runway 28 would be what?"

"Answer: Would be a westerly wind."

• • • • •

[Tr. 63] "Question: Will you give us the recollection that you now have with respect to the position of Mohawk 112 as you approached the gate?"

"Answer: We were approaching the gate and our compass setting would naturally have varied, so it is difficult to tell you. It was off to our left, yes, the aircraft was parked to the left of where we eventually parked."

• • • • •

[Tr. 64] Mr. GALIHER: Next page, 840:

"Question: What were the weather conditions that you observed at the time you saw one engine was running on Mohawk 112?"

"Answer: The sky was clear.

"Question: The sky was clear?

"Answer: Yes.

"Question: In all directions?

"Answer: No.

"Question: Was the sky clear in all quadrants at the time you observed one engine running on Mohawk 112?

"Answer: No.

"Question: In which direction was the sky clear?

"Answer: To my right.

"Question: Which is what, which was what compass point?

"Answer: Approximately northerly-heading."

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[Tr. 67] (Whereupon the following excerpts were read [Tr. 68] from the Deposition of Herbert H. Holmes, Mr. Galiher reading the questions and Mr. Steele reading the answers.)

Mr. GALIHER: 1079.

"Question: Sir, would you for the record state your full name and age and present address?

"Answer: Herbert H. Holmes, 41 years, 4 Briarwood Avenue, West Peabody, Massachusetts.

"Question: By whom, sir, are you presently employed?

"Answer: Mohawk Airlines.

"Question: In what capacity?

"Answer: Flight captain.

"Question: On July 2, 1963, by whom were you employed?

"Answer: Mohawk Airlines.

"Question: As a captain?

"Answer: Yes."

Mr. GALIHER: 1080.

"Question: Sir, on the day in question, July 2, 1963, were you the captain on Mohawk Flight 186, which

departed Toronto, Canada, at approximately 3:20 p.m., taking off from that airport at that time and landing at Buffalo and [Tr. 69] arriving at the gate in Buffalo at approximately 3:54 p.m.?

"Answer: I was."

Mr. GALIHER: 1104.

"Question: Just so the record is straight, you were approximately five miles from the Buffalo Airport when you last saw the second line of thunderstorms on your radarscope?

"Answer: That's right.

"Question: At approximately what time was that, when you were in that position? That is, five miles from the Buffalo Airport?

"Answer: Approximately three minutes before touchdown. Approximately 3:45, thereabouts."

Mr. GALIHER: 1105.

"Question: How many miles was the closest point of this east-westerly line of thunderstorms from Buffalo Airport?

"Answer: Ten miles."

Mr. GALIHER: 1115, about the middle of the page.

"Question: What else, if anything, did you say to the Mohawk communications radio operator regarding the location of these two lines of thunderstorms?

[Tr. 70] "Answer: I told him, I believe I told him that the first line was approximately 25 to 30 miles south of Toronto and the second line was immediately north of the Niagara Falls area."

Mr. GALIHER: 1125.

"Question: At approximately 4:00 p.m., you made a telephone call from the Mohawk Operations Office in Buffalo to Mr. Charles McIntyre in Utica; is that correct?

"Answer: That's correct.

"Question: What did you say to him and what did he say to you at that time, in that conversation?"

"Answer: The purpose of the phone call was to further reflect on the in-flight report, and I had asked him if he had gotten my in-flight report about the two lines of thunderstorms.

"And he replied that, 'What two lines of thunderstorms?'

"He hadn't received any thunderstorm report. I more or less repeated my conversation I had made on the radio and referred to this one particular cell that we had observed coming into Buffalo.

"Question: This second line of thunderstorms?

[Tr. 71] "Answer: Yes.

"Question: What did you tell him about the second line of thunderstorms, the squall line?

"Answer: That it had one particular cell, that I was showing one particular cell had filled up the left side of my radarscope. I had never seen anything so large, and it would be a good idea to keep an eye on it."

Mr. GALIHER: 1130, one-third of the way down.

This reference refers back to the statement that he made, just as I have read.

"Question: Would you refer to the fifth line from the bottom of your statement?

"Answer: Yes, I believe my exact words are as follows:

" 'That it might be a good idea to keep close watch on this storm as it looked like a real wild one.' "

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[Tr. 72] The COURT: Which direction is Buffalo from Rochester and Ithaca?

Mr. MURRAY: Due west of Rochester; it would be northwest from Ithaca.

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(Whereupon the following excerpts were read from the Deposition of Robert C. Baker, Mr. Galiher reading the questions and Mr. Steele reading the answers.)

[Tr. 73] "Question: Would you please state your full name, address and age for the record?

"Answer: Robert C. Baker, 29 Tindall Drive, Clinton, New York.

"Question: What is your age?

"Answer: Let me think. Thirty-seven.

"Question: By whom are you presently employed, sir?

"Answer: Mohawk Airlines.

"Question: In what capacity?

"Answer: Dispatcher.

"Question: On July 2, 1963, by whom were you employed?

"Answer: Mohawk Airlines."

Mr. GALIHER: 1910.

"Question: You were performing these duties in the Dispatch Office in Utica; is that correct?

"Answer: Yes."

Mr. GALIHER: 1921. 1927, I beg your pardon.

"Question: Was Flight 112 released on an IFR flight plan?

"Answer: He was released, according to my [Tr. 74] release, IFR, yes."

Mr. GALIHER: May we agree, gentlemen, that that means Instrument Flight Rules?

Mr. MURRAY: That is correct.

"Question: If the crew of Flight 112 wished to change its IFR flight plan, what procedure was required to be followed by the crew? Specifically, did it have to notify you?

"Answer: No, it didn't have to notify me.

"Question: Did it have to obtain authorization from

the FAA control tower at Rochester for a change of the IFR flight plan?

"Answer: Yes, I believe they would. If they were going VFR, they would just state that they were going VFR."

MR. GALIHER: May we agree, gentlemen, that that means Visual Flight Rules?

MR. MURRAY: That is agree.

• • • • •
 "Question: What weather information was disseminated, to your knowledge, that day to Rochester for use by Flight 112?

"Answer: Oh, I believe there was a message [Tr. 75] sent out, combining a couple of reports that had come in over the weather machine by Mr. McIntyre, and also, I believe, there was a weather advisory sent out by him signed by both of us."

• • • • •
 "Question: What did you expect that day would be the type of turbulence to be encountered by Flight 112 from Rochester to White Plains?

"Answer: I would have considered the turbulence probably light turbulence."

• • • • •
 "Question: Was that on the basis of your familiarity with all of the weather documents received on the Service A facility?

"Answer: Yes.

"Question: Did you examine the winds aloft in coming to that conclusion, that the turbulence to be encountered between Rochester and White Plains [Tr. 76] would be light?

"Answer: I probably went over the winds aloft. I

can't remember that I actually saw the winds aloft document for that particular period."

.

"What time, approximately, did you see this amended terminal forecast for Rochester?"

.

"Say it came out at 2:45, I would probably have seen it on the printer maybe—I don't know how long it takes these things to get out. Sometimes possibly ten to fifteen minutes, maybe, until they put it out.

"Question: To the best of your recollection, [Tr. 77] did you see it at around 3:00 p.m. or before 3:00 p.m.?"

"Answer: I might have been around—it might have been around 3:00 p.m. I couldn't say whether it was before or after 3:00 p.m."

.

[Tr. 81] "Question: Now, sir, when you saw the amended terminal forecast for Rochester with its mention of visibility of a half a mile, did you have an opinion at that time as to whether that information had any significance at all for Flight 122?"

"Answer: It had significance for Flight 112, if they actually got this kind of condition, yes."

.

"Question: If the weather is, as you put it, below minimums, what significance, if any, does that have with regard to take-off?"

[Tr. 82] "Answer: It would mean no take-off."

"Question: What do you mean by, 'It would mean no take-off'?"

"Answer: If it was 400 and a quarter, as stated here in this area forecast, 400 and a quarter, would be below take-off minimums."

Mr. GALIHER: May I interject this, gentlemen. 400 and a quarter is not one number. It is the number 400 and also "and a quarter" written out.

Mr. MURRAY: That is correct.

• • • • •

[Tr. 83] "Question: If this message, Plaintiff's Exhibit 40-A, for identification, the 4:42 Special, had come to your personal attention at approximately a minute or two before the scheduled departure time from the gate of Flight 112, what procedure if any would you have followed?"

• • • • •

"Answer: If I had received this before his departure, which is timed at 42—I doubt if I did—I may have originated a call to Rochester about the particular Weather Special. I don't know.

"Question: Did you have the capacity to communicate with the crew in the cockpit of Flight 112 before it took off?

"Answer: I don't think we could talk to the crew on the ground at Rochester, no. I don't—I think—on the ground, I don't think we could.

[Tr. 84] "Question: Did you have the capacity to talk to the crew indirectly, through an intermediary, while the crew was in the cockpit of Flight 112 and before take-off?

"Answer: I can't remember definitely whether Rochester had a radio at that time. If they did, I could have talked to them through Rochester radio, via phone conversation to Rochester station."

• • • • •

"Question: The Rochester-Monroe County offices of Mohawk did not have a Telautograph machine—correct?

"Answer: No."

Mr. GALIHER: Gentlemen, will you stipulate that there will be further testimony concerning the Telautograph machine, that this was installed in the tower at the Airport and was a means of communication between the Weather Bureau installation also at the Airport and the Control Tower?

Mr. MURRAY: No. There were at least five Telautograph machines on the Airport. Everybody had them but Mohawk and could communicate among all these various facilities.

I will stipulate to the various facilities but I [Tr. 85] am not about to limit it to the effect that that Telautograph was limited only to the Weather Bureau and the Control Tower. I will stipulate Mohawk did not have it and the Weather Bureau did, if you will stipulate that American Airlines and United Airlines had Telautograph.

Mr. GALIHER: Yes, sir.

Mr. MURRAY: Fine.

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[Tr. 86] "Question: Based on all the weather data afforded you that day, July 2, 1963, and on your experience as a dispatcher, do you have an opinion as to whether or not you should have cancelled Flight 112 on that particular day?

"Answer: With the weather that I had available, I had no reason to cancel the flight.

.

[Tr. 87] "Question: Is there anything unusual about the circumnavigation of a thunderstorm?

"Answer: Nothing unusual about it, no."

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[Tr. 88] "Question: Were you present when Mr. McIntyre did something after having received Captain Holmes' telephonic message?

"Answer: Yes.

"Question: What, if anything, did he do?

"Answer: After his phone call, he called——

"Question: After whose phone call?

"Answer: After Captain Holmes' phone call to Mr. McIntyre, Mr. McIntyre called communications, related what Captain Holmes had told him and asked about Captain Holmes' radio message to communications earlier.

"Question: Did you hear Mr. McIntyre do this?

"Answer: Yes, I heard him."

Mr. GALIHER: 2141, one-third of the way down.

"Question: We are not talking about weather on a daily basis, are we? We are talking about [Tr. 89] thunderstorm activity, extending over a 300 by 120 mile area, approximately; isn't that right?

"Answer: Right.

"Question: That's not something that happens every day of the week, is it?

"Answer: No, that's right."

.

[Tr. 90] "Question: Sir, on July 2, 1963, did you consider this weather condition to be hazardous for aircraft?

"Question: If they attempted to take off in this condition?

"Answer: Would you say that again?"

.

"Question: Would you answer the question, Mr. Baker?

"Answer: If such a condition was occurring, it would be a possible hazard to a flight, yes."

Mr. GALIHER: 2154, two-thirds down.

"Question: Did you, in fact, cancel any flights that day?

"Answer: I believe I did, yes.

"Question: Two flights?

"Answer: It may have been two flights. I don't remember."

Mr. GALIHER: 2155.

[Tr. 91] "Question: Let me see if I can refresh your recollection, sir.

"You cancelled two flights at Utica that day?

"Answer: I cancelled two landings at Utica.

"Question: Yes, sir. You diverted them to other airports?

"Answer: Right.

"Question: For what reason?

"Answer: Because the airport was below limits at the time for landing.

"Question: By virtue of what weather phenomena, if any?

"Answer: We had thunderstorm activity here at the time."

* * * * *

[Tr. 92] (Whereupon the following excerpts were read from the Deposition of Patrick Joseph Murray, Mr. Galiher reading the questions and Mr. Steele reading the answers.)

Mr. GALIHER: 1163.

"Question: What is your name and home address?

"Answer: Patrick Joseph Murray, 5 Huntington Place, New Hartford, New York.

"Question: Mr. Murray, by whom are you presently employed?

"Answer: Mohawk Airlines.

"Question: On July 2, 1963, by whom were you employed?

"Answer: Mohawk Airlines.

"Question: For how long prior to that date?

"Answer: Approximately two years and three months.

"Question: In what capacity were you then and now employed?

"Answer: Lead Customer Service Agent.

• • • • •

[Tr. 93] "Question: At approximately what time, to the best of your recollection, did the passengers start to board Mohawk Flight 112?

"Answer: It would be approximately 4:30 p.m."

• • • • •

[Tr. 94] "Question: Was there some sort of understanding between Mohawk personnel and United Air Lines personnel with regard to the use by your people of their weather facilities, the Telautograph and the Service A facilities?

"Answer: There was no formal agreement.

"Question: Was there a general practice whereby Mohawk people would use those facilities at United Air Lines?

"Answer: Yes."

Mr. GALIHER: 1197, Line 18.

"Question: What does SIGMET mean?

"Answer: Severe weather warning.

"Question: Did you see that on the day of July 2, 1963?

"Answer: Yes, sir.

"Question: At approximately what time?

"Answer: 3:05.

"Question: P.M.?

"Answer: P.M."

Mr. GALIHER: 1201, Line 10.

"Question: Was it your understanding that day [Tr. 95] that this exhibit was issued by Mohawk Airlines or by the United States Weather Bureau?

"Answer: The United States Weather Bureau."

Mr. GALIHER: 1208, Line 6.

"Question: You had a conversation with Richard Dennis alone or in the presence of someone else?

"Answer: John Neff was present.

"Question: Anyone else?

"Richard Curtis?

"Answer: That I cannot be certain.

"Question: Miss Miara, the stewardess?

"Answer: I don't believe so.

"Question: What time did the conversation take place?

"Answer: It would be in the neighborhood of 3:50 p.m., 3:55.

"Question: What did you say to them and what did they say to you, in words or substance?

"Answer: I had mentioned to Captain Dennis that on the way to work I had heard tornado warnings, thunderstorm warnings. He agreed that there were thunderstorms in the area. That's it."

.

[Tr. 98] "Question: Were you present when someone else gave the 4:00 p.m. weather sequence to Richard Dennis?

"Answer: Yes, I was.

"Question: Who is that?

"Answer: Richard Curtis."

.

[Tr. 99] "Question: And at the same time, that is, the time you approved of the flight plan, you could have picked up the telephone and called the Weather Bureau yourself, could you not?

"Answer: Yes.

"Question: And then handed the telephone to Captain Dennis for a weather briefing?

"Answer: No.

"Question: Why not?

"Answer: We were told by the Weather Bureau [Tr. 100] that they were too busy at that particular time of day to sit down and give us any weather that we needed. It was available at the Weather Bureau for the captains, themselves, to view it and to go over it and get a weather to have attached the severe weather warning issued by the company to the flight plan."

.

"Question: If you had received information issued by the Rochester Weather Bureau Office of the change in weather conditions during the hour, would you have advised any aircraft still on the ground of that information?"

"Answer: Yes.

"Question: If you had received from the Weather Bureau information that a thunderstorm had started before an aircraft took off, would you have taken steps to advise that aircraft?"

"Answer: Yes.

[Tr. 101] "Question: If the aircraft had not departed the gate, what would you do under those circumstances?"

"Answer: I would have notified—if it was a severe change—I would have notified our Dispatch Office who could talk it over with the captain.

"Question: If the captain was in the cockpit of an aircraft still at the gate when such information of a weather change was received from the Weather Bureau, would you tell the captain?"

"Answer: Yes.

"Question: In your previous answer you referred to a severe weather condition.

"Answer: Yes.

"Question: Was a thunderstorm a severe weather condition which would prompt you to advise the crew of an aircraft still at the gate but in the cockpit?"

"Answer: Yes."

Mr. GALIHER: 1325, Line 12.

"Question: On the basis of what you heard that day, Mohawk Airlines 112 was communicating with the tower on one frequency, the local control frequency, [Tr. 102] is that correct?

"Answer: Yes."

* * * * *

"Question: Did you provide the crew of Flight 112 with available weather data on that day?

"Answer: Yes."

* * * * *

(Whereupon the following excerpts were read from the Deposition of Charles J. McIntyre, Mr. Galiher reading the questions and Mr. Steele reading the answers.)

Mr. GALIHER: This is 1658.

"Question: Would you state your full name, age and address for the record, please?

[Tr. 103] "Answer: Charles J. McIntyre. I am 45. 205 West Pine Street, Rome, New York.

"Question: By whom are you presently employed, Mr. McIntyre?

"Answer: Mohawk Airlines.

"Question: In what capacity?

"Answer: My present title is Manager, Flight Service. But it's basically dispatcher.

"Question: On July 2, 1963, by whom were you employed?

"Answer: Mohawk Airlines.

"Question: In what capacity on that date?

"Answer: Flight dispatcher.

* * * * *

[Tr. 107] "Question: What responsibility, if any, did the dispatcher have in relation to the captain of an aircraft?

"Answer: Well, the captain and the dispatcher have a joint responsibility for the safety of any Mohawk flight. In other words, any flight that Mohawk operates—well, it can't be operated until the captain and the dispatcher agree between them that it is being operated safely."

* * * * *

[Tr. 111] "Question: I hand you Plaintiff's Exhibit 35, for identification, and ask you if you recognize it.

"Answer: Yes, sir.

"Question: Did you see that document that day?

"Answer: Yes, sir.

"Question: What time did you see that document for the first time that day? Local time.

"Answer: I would guess, approximately 2:30.

"Question: Rather than a guess, is that the best of your recollection?

"Answer: Yes, sir.

"Question: Is this the aviation severe weather forecast that you mentioned previously as being [Tr. 112] issued from Kansas City?

"Answer: Yes, sir.

"Question: Did this aviation severe weather forecast apply to Area 1, as a tornado forecast?

"Answer: Yes, sir.

"Question: What information did this impart to you?

"Answer: You mean the specific part saying, 'tornado forecast'?

"Question: The content of the message applicable to Area 1.

"Answer: The fact that over this particular Area 1 there was the possibility of scattered severe thunderstorms, hail, turbulence, and the chance of a tornado."

* * * * *

[Tr. 113] "Question: Did Captain Holmes, in his conversation with you, advise you of the tops being over 50,000 feet?

"Answer: Yes, sir.

"Question: Did you convey that to Mr. Baker?

"Answer: I believe I did.

"Question: Did Captain Holmes advise you that the return was so large it scared him?

"Answer: I believe he did, yes, sir."

Mr. GALIHER: 1830, Line 11.

"Question: Did the dispatchers at Utica have the authority to delay a flight?

"Answer: Yes, sir.

[Tr. 114] "Question: For reasons of weather, such as thunderstorm?

"Answer: Yes, sir.

"Question: How would they exercise that authority?

"Answer: If you had a known condition as a thunderstorm, any other weather condition that would be an unsafe condition, you would just advise the station and/or the pilot that the flight would be delayed for a given length of time.

• • • • •
"Question: How could the dispatcher exercise his part of this responsibility in circumstances where he wasn't advised of the imminence or the presence of thunderstorm activity at a particular airport?

"Answer: He obviously could not.

• • • • •
[Tr. 115] "Question: You weren't aware of any thunder or lightning in the area?

"Answer: No, sir. We are right in the middle of a large concrete building. We weren't in this office over here, you understand, at that time."

• • • • •

[Tr. 116] "Tell us whether or not you have learned to place reliance on the data supplied by the Weather Bureau.

"Answer: As a pilot, I just took it for granted that they did a fairly good job, and I [Tr. 117] can't recall getting into a situation where it was that marginal as to their ability."

• • • • •
 "Since dispatching, I found that they aren't [Tr. 118] always as accurate as they might be."

• • • • •
 "Question: Would a thunderstorm approaching an airport fall within the terms or the term of weather deterioration?

"Answer: They are required to indicate in a special report the beginning of a thunderstorm.

"Question: So that specifically with the advent of a thunderstorm approaching an airport, how would you define the obligation of the Weather Bureau, assuming it had a station at that airport, so far as the frequency and rapidity of their reports are concerned?

[Tr. 119] "Answer: There are very definite criteria. As I mentioned, they do have to issue a special report with the beginning of a thunderstorm, which would be the indication of thunder in the area. And as ceiling and visibility change, according to this criteria, they are also obligated to put out special reports. And this gets into quite a varied group of changes that they can be required to put out.

• • • • •
 [Tr. 123] (Whereupon the following excerpts were read from the Deposition of Richard L. Curtis, Mr. Galiher reading the questions and Mr. Steele reading the answers.)

Mr. GALIHER: Page 1415.

"Question: Would you state your full name, please?

"Answer: Richard L. Curtis.

"Question: Where do you presently reside?

"Answer: 31 Starwood Drive, Rochester, New York.

• • • • •

[Tr. 124] "Question: When did you first obtain a commercial license which entitled you to carry passengers for hire?

"Answer: March of 1962.

"Question: At that time you were employed by Mohawk Airlines, were you not?

"Answer: Yes.

"Question: As a customer service agent, stationed at the Monroe County Airport facility of Mohawk; is that correct?

"Answer: Yes.

"Question: In Rochester?

"Answer: Right."

• • • • •

[Tr. 125] "Question: On the basis of your recollection having been refreshed, was Flight 112 a scheduled departure for 4:45 p.m. to originate in Rochester, fly to White Plains and terminate at Newark Airport?

"Answer: Yes."

Mr. GALIHER: 1426, Line 9.

"Question: Where would you get the severe weather warnings on those occasions prior to July of '63?

"Answer: Over the company private line [Tr. 126] teletype. And it would be sent by the company dispatcher, one of them, that were on duty at the time."

Mr. GALIHER: 1427, Line 3.

"Question: On July 2, 1963, was such a severe weather warning received on company teletype in Rochester?

"Answer: Yes, it was."

* * * *

"Question: Who were the crew members that [Tr. 127] brought Flight 115 to Rochester?"

"Answer: Captain Dennis and First Officer Neff."

Mr. GALIHER: This was the same plane, Your Honor. They just changed the number.

"Question: And Stewardess Miara?"

"Answer: Yes, I believe Miara was on."

The COURT: When does it say they arrived?

Mr. GALIHER: They landed at 3:40 p.m. at Rochester.

* * * *

[Tr. 128] "Question: The aircraft that they brought into Rochester from Ithaca as Flight 115 was the same aircraft that they used to originate Flight 112; is that correct?"

"Answer: Yes.

"Question: That was a Martin 404?"

"Answer: Yes.

"Question: Flight 112 had a scheduled departure time of 4:45 p.m.?"

"Answer: Yes, I believe that is correct.

"Question: And the scheduled departure time relates to the time the aircraft moves away from the terminal area.

"Answer: Yes.

"Question: As distinguished from the time it actually lifts off the runway, correct?"

"Answer: Yes.

"Question: Were you present when Mohawk Flight 112 started to move away from the gate?"

"Answer: Yes.

"Question: What time was that?"

"Answer: Approximately scheduled departure time, which is 4:45, I believe.

* * * * *

[Tr. 130] "Question: Approximately what time did you first see the crew in the Operations Office?

"Answer: Five minutes later.

"Question: That would be about 3:45 to 3:50?

"Answer: Say, 3:50."

* * * * *

[Tr. 131] "Answer: I said to First Officer Neff that the release was here and it was on the flight blank. And it was here, if he was ready, as to when he wanted to make it out and get it done. And that I would get him some weather as soon as the hourly sequence was due.

"Question: This conversation took place before 4:00 p.m.?

[Tr. 132] "Answer: Yes, I would say so.

* * * * *

"Question: Was there any conversation between 3:50 p.m. and 4:00 p.m. concerning weather conditions?

"Answer: With me—between myself and the crew members, I would say, no.

* * * * *

"Question: Where was the McIntyre severe weather warning at this time, between 3:00 and 4:00 p.m.? Was it on the counter?

"Answer: I would say, yes. Or, yes."

* * * * *

[Tr. 133] "Question: United Air Lines had an office in the terminal building?

"Answer: Yes.

"Question: How far was that office, in terms of walking distance, from the Mohawk Airlines office?

[Tr. 134] "Answer: I would say 100 to 125 feet.

"Question: Is that the best of your recollection?

"Answer: To my judgment, I would say it's 100 to 125 feet away.

"Question: Did the United Air Lines office have a Service A Circuit 8022 weather facility or equipment?

"Answer: Yes.

"Question: Did that United Air Lines office also have a Telautograph machine?

"Answer: I believe so.

"Question: Is that the best of your recollection, that they did have a Telautograph machine?

"Answer: Yes.

"Question: Did they also have a copying machine of some sort?

"Answer: Yes.

"Question: Was the Mohawk office at that time equipped with a Telautograph machine, a copying machine and a Service A Circuit 8022 teletype machine?

"Answer: No.

[Tr. 135] "Question: It had none of those three items of equipment, correct?

"Answer: Correct."

* * * * *

[Tr. 136] "Question: With regard to the hourly sequences, Rochester's Monroe County Airport had a United States Weather Bureau station there, did it not?

"Answer: Yes.

"Question: And it issued weather on the hour, correct?

"Answer: Yes.

"Question: In addition, were there occasions prior to that date that you were aware of that the [Tr. 137] United States Weather Bureau at Rochester issued specials or local weather observations within the hour?

"Answer: Yes.

"Question: Did that information come over the Telautograph machine in United Air Lines? That is, the weather occurring, specials and the locals issued by Rochester Weather Bureau within the hour and other than the hourly sequence?"

"Answer: The Telautograph transmits both the hourly sequence and any special weather or condition that the Weather Bureau or Control Tower would transmit.

"Question: Were any specials or locals issued within the hour by the Rochester Weather Bureau depicted on the Service A facility?"

"Answer: To my knowledge, no."

Mr. GALIHER: 1463, Line 10.

* * * * *

[Tr. 138] "Question: You did not have a Service A or a Telautograph machine in the Mohawk office?"

"Answer: Correct."

* * * * *

[Tr. 139] "Did you physically attach the 4:00 p.m. hourly sequence to the flight plan?"

"Answer: No.

"Question: Where did you put the 4:00 p.m. hourly sequence?"

"Answer: I believe I laid it loosely—it was not attached—but I believe it was laid on top of the flight plan.

"Question: On top of the flight plan?"

"Answer: Yes.

"Question: To the best of your recollection and knowledge, did the crew of Mohawk Flight 112 take that document with them?"

"Answer: Yes.

"Question: To the aircraft?"

"Answer: Yes.

"Question: Where was the severe weather warning,

the McIntyre message, issued at 2:53 p.m., when you came back from the United Air Lines office?

"Answer: To my best recollection, it was laying on the operations counter."

Mr. GALIHER: 1476, Line 3.

"Question: You testified earlier that [Tr. 140] Captain Dennis signed the flight plan between 4:25 p.m. and 4:35 p.m.; is that correct?

"Answer: Yes.

* * * * *

[Tr. 142] "Question: Did Captain Dennis or First Officer Neff [Tr. 143] say anything concerning whether or not they had the information concerning weather that they wanted?

"Answer: I believe Captain Dennis said that what was available would be sufficient. And what he had, if he had the new hourly sequence together with what he already had.

"Question: Did you call the Weather Bureau for a weather briefing?

"Answer: No.

"Question: Was there a phone available to call the Weather Bureau?

"Answer: Yes.

* * * * *

[Tr. 145] "Answer: I believe when the tower called us. [Tr. 146] They said that they believe 112 was down.

"Question: What time was that call from the tower received in the office?

"Answer: Oh, the accident was at 4:49. So I would say it was within that minute."

Mr. GALIHER: 1504, Line 2.

"Question: On the basis of what you observed that day, at approximately what time did you receive the

call from the tower concerning the accident to Mohawk 112?

"Answer: Approximately ten minutes to 5:00."

• • • • •

"Question: What did you observe about the weather at that time?

"Answer: As I recall it was darkening to the west and northwest. But there was no rain or severe gusts or anything like this, you know, [Tr. 147] that you would actually really make a note of and remember.

"Question: This was at 4:40 p.m.?

"Answer: I would say within that."

• • • • •

"Question: Did you notice any movement at 4:40 p.m., of this darkening weather?

"Answer: No, nothing that I think would relate.

"Question: You saw this to the west and to the northwest; is that correct?

"Answer: It was coming from about west or the northwest.

"Question: Coming which direction?

"Answer: As I recall, it was moving towards the southwest."

• • • • •

[Tr. 147-A] Mr. MURRAY: If I may interject for a moment, just to keep things clear here, and I think counsel will agree to this: The reason it is called Runway 28 is because it heads in a roughly 280 degree due west heading. Each runway bears to the nearest tenth compass degree. Runway 28 is basically [Tr. 148] east-to-west.

The COURT: That is to help the pilot to identify it when he can't see the numbers.

Mr. MURRAY: That is correct, Your Honor.

Mr. STEELE: We so stipulate.

• • • • •

"Question: Did you notice any movement at 4:40 p.m. of this darkening weather?"

"Answer: No, nothing that I think would relate.

"Question: You saw this to the west and to the northwest; is that correct?"

"Answer: It was coming from about west or the northwest.

"Question: Coming which direction?"

"Answer: As I recall, it was moving towards the southeast.

"Question: Did you see it coming toward you?"

"In which direction was it moving with relation to where you were at 4:40 p.m.?"

[Tr. 149] "Answer: Southeast, which would, from where I was would be coming towards the airport but also, it was, to me it didn't seem that significant, you know, that much movement to it, that it would be coming on, you know, in a big rush. Or something like this. It just seemed to be there."

Mr. GALIHER: 1511, Line 12.

"Question: Did you see the crew in the cockpit after that time?"

"Answer: Yes.

"Question: What time?"

"Answer: Within the next two or three minutes.

"Question: That would be between 4:42 and 4:43?"

"Answer: Right.

* * * * *

[Tr. 150] "Question: At what time was the first engine of Mohawk 112 started?"

"Answer: I would say approximately 41 to 43 after the hour."

* * * * *

[Tr. 151] THE COURT: Was this take-off from east to west?

Mr. MURRAY: That is correct, Your Honor, into the west.
Mr. GALIHER: Yes, Your Honor.

• • • • •
“Question: At what time did Flight 112 start to move, first start to move from the gate?

“Answer: Fifteen to twenty seconds after the engine was started.

“Question: Was that between 4:44 and 4:45 p.m.?

“Answer: I would say, yes.

• • • • •
[Tr. 152] “Question: Did you give a signal to start the right engine?

“Answer: Yes.

“Question: At the time you gave the signal, did you have a view of the cockpit?

“Answer: Yes.

[Tr. 153] “Question: Did you have a view of the right side of the cockpit? By ‘right side,’ I mean from the point of view of someone in the cockpit?

“Answer: Yes.

“Question: Who was seated in the right seat at that time?

“Answer: Captain Dennis.

“Question: Did you subsequently give a signal to start the left engine of the aircraft?

“Answer: Yes, yes.

“Question: When you gave the signal to start the left engine, Engine No. 1, did you observe who was seated in the left-hand seat of the cockpit?

“Answer: Yes.

“Question: Who was that?

“Answer: First Officer Neff.”

Mr. GALIHER: 1520, Line 11.

“Question: What time was the first of the two engines started?

"Answer: Sometime between 41 after and 43 after the hour.

"Question: At that time, just before you started the engine, did you hear any thunder?

[Tr. 154] "Answer: To the best of my recollection, no.

"Question: Did you see any lightning?

"Answer: No.

"Question: Did you see any darkness?

"Answer: Yes.

"Question: What time did you start the second of the two engines?

"Answer: Approximately 44 after the hour.

"Question: At that time did you see any lightning?

"Answer: Not that I recall."

Mr. GALIHER: 1521, Line 6.

"Question: Did you see any darkness at that time?

"Answer: Yes.

"Question: Where was it?

"Answer: To the northwest.

"Question: To the west also?

"Answer: Yes."

Mr. GALIHER: And at the bottom of the page, Line 24.

"Question: Was it raining at that time? That is, the time you started the second engine?

"Answer: It was raining then or within thirty seconds or so after. It wasn't raining; it was [Tr. 155] sprinkling. It started to sprinkle very light. This was, I would say, just at the time he was leaving the gate, he started to taxi, it started to sprinkle a little bit."

Mr. GALIHER: 1525.

I beg your pardon, 1527, Line 10. Referring to his CAB testimony.

"Question: Mr. Curtis, did you give this answer to this question:

“Question: Was there any lightning?

“Answer: I don't recollect any until he was out on the taxiway in a run-up position and I believe there was some lightning then.”

“Did you give that answer to that question?

“Answer: Yes.”

Mr. GALIHER: 1530, Line 12.

“Question: Did you hear thunder which you determined came from generally northwest?

“Answer: Again, to the best of my recollection, yes.

“Question: Did you see a ‘quite voluminous build-up as Flight 112 left the gate’?

“Answer: I would say, yes.”

[Tr. 156] Mr. GALIHER: Line 23.

“Question: Let me ask you this: Did you see this ‘quite voluminous build-up’ in one particular direction?

“Answer: Yes, northwest.”

* * * * *

[Tr. 158] “Question: Was there a Telautograph machine in the FAA tower?

[Tr. 159] “Answer: To the best of my knowledge, yes.

* * * * *

“Question: If they had the Telautograph mechanism in the FAA tower, they would have received this 2042 Zebra message; is that correct?

Mr. MURRAY: Same objection, Your Honor.

The COURT: It is going to be clear they did receive it.

Mr. MURRAY: I will stipulate they received it.

* * * * *

[Tr. 162] (Whereupon the following excerpts were read from the Deposition of Gordon G. Stoppelbein, Mr. Galiher reading the questions and Mr. Steele reading the answers.)

Mr. GALIHER: Page 2.

"Question: For the record, state your full name, please.

"Answer: Gordon G. Stoppelbein.

"Question: And by whom are you presently employed?

"Answer: Hylan Flying Service, H-y-l-a-n.

"Question: And where are they located?

"Answer: Rochester-Monroe County Airport, Hangar 1.

"Question: And what is your position with [Tr. 163] the firm?

"Answer: Well, Chief Pilot and Manager, General Manager."

Mr. GALIHER: Page 4, Line 4.

"Question: What FAA licenses do you currently hold, if any?

"Answer: It is a commercial with ratings of instrument rating and airplane single, multi-engine land and sea, and instructor's rating, and an instrument instructor's rating, too.

"Question: And as part of your duties with the Hylan Aviation, do I understand that at times you teach flying?

"Answer: Yes, sir."

.

[Tr. 165] "Question: I wonder if you would look at this map which has been marked Government Exhibit B, and which has now been a subject of stipulation between the parties, and could you locate by looking at that where you were on July 2, 1963?

"Answer: Yes, sir. I am very familiar with this. Right there. You want me to make an X or anything?"

.

[Tr. 167] The CLERK: Plaintiff's Exhibit 16 marked for identification.

(Whereupon map of Rochester-Monroe County Airport was marked Plaintiff's Exhibit No. 16, for identification.)

The COURT: That shows, "My location," which is there (indicating).

* * * *

Mr. MURRAY: Hangar No. 1, behind the Tower.

Mr. GALIHER: That would be down in this area.

Mr. MURRAY: The Tower is over here. The hangar is I believe that one right there. Let's see if there is any other point of reference.

The COURT: That looks like it.

* * * *

[Tr. 168] "Question: What were you observing outside the window, if anything?

"Answer: Yes, sir. The point of time, I can't just exactly say, but it was during the storm that came up. The reason I was observing that, we have aircraft parked out on the ramp, and I gave instruction to the pilots in alignment to move into the hangar because you could see by the looks of the clouds and the surrounding wind coming up that it was a heavy storm approaching. I was [Tr. 169] watching that and got our airplanes in the hangar. Then I continued to look out the window and observe the storm as it was passing through.

* * * *

"Question: What happened at 4:45 p.m., if [Tr. 170] anything?

"Answer: That was the time—that is what I related here; I heard an aircraft and it sounded like a Martin to me, that makes a little different noise than a Convair, and I was amazed that a person would make an approach in that kind of conditions, weather conditions.

* * * *

"Question: Just what you saw and heard, right; not what anybody else said to you. So, if I may, I will ask the question again.

"At the time that you heard this aircraft, would you from that point on describe what you heard and what you observed?

"Answer: Well, when I first heard the aircraft, it seemed to get louder and more intense, the sound [Tr. 171] of the engines, and at that time the storm was moving from the west to the east side of the field, and the west side of it, visibility raised and we continued looking out there and observing the weather, and first thing I noticed an aircraft was—the one we are referring to, the Martin, come out of this thick—well, it was thick weather, it was, and poor visibility, into an open clearing on the west side of the field, the west third of the field. That's when I first observed the aircraft.

* * * * *

[Tr. 172] "Will you describe for us exactly what you observed the aircraft do, as best you can, from the time you first saw it?

"Answer: Yes. When the aircraft emerged from this thick weather where it become visible, you could see it very distinctly. The attitude of the aircraft was between forty-five and fifty degrees pitch up.

"Question: Now, if you will stop at that point. There are going to be laymen like myself reading this transcript. Could you explain what you mean by forty-five degrees pitch up?

"Answer: Well, if the airplane is level, the wings would be parallel with the horizon if you are flying level, and pitch would be forward and backward on the wheel to put the nose down or up above that horizon. This, as I related, was forty-five to fifty degrees above the horizon in a very steep climb.

"Question: O.K. Now, would you describe what you saw next, if anything?

"Answer: Yes. The aircraft seemed to hold that same pitch, I say again, for the forty-five, [Tr. 173]

fifty degrees approximately, and which is very high, and seemed to lose speed. It turned slightly to the right——

“Question: Now, stop there. When you say, turned slightly to the right, would you describe in layman’s terms what the aircraft did?”

“Answer: Yes. The nose turned from its take-off position parallel to the runway to the right. It turned—I couldn’t say how many degrees—it turned to the right and then it seemed to start to right itself, and the direction went to the left and it never stopped. It went right around to the left until it contacted the ground.”

* * * * *

“Question: You understand that we are asking just prior to seeing the aircraft?”

“Answer: Yes, sir.

“Question: And was it raining?”

“Answer: Yes, sir.

“Question: Was it hailing?”

[Tr. 174] “Answer: Yes, sir.

* * * * *

“Answer: Shall I start back about five or ten minutes before I saw the aircraft?”

“Question: No. I would prefer you to take the time period just prior to seeing the aircraft.

“Answer: Well, I was looking out the window and observed heavy rain, and also small hail, one-eighth inch, that’s what I was observing, and the visibility at that time looking out through a windowpane was, I would say, about five hundred feet, four to five hundred feet. Visibility was very limited.

“Question: In which direction were you looking when you have just described the visibility?”

“Answer: Looking north from my position here.

“Question: Could you see the Terminal Building?”

[Tr. 175] “Answer: No, sir.

* * * * *

"Question: Now, I would like to back up a little bit further, and I hope I am not confusing you.

"Let me ask a direct question. How long had you been standing at the window before you actually observed the aircraft?

"Answer: Five minutes.

"Question: All right. Now, if you would, would you back up now and tell me what changes in the weather, if any, you observed from the time you first looked out the window until the time that you have just described, just before you saw the aircraft?

"Answer: The storm intensified, if you start at the first minute or so. It seemed to intensify, and what cloud you could see or rain falling, it looked like they were rolling, you know, the [Tr.176] turbulence involved; and then it started to rain harder and more severe, and then the wind picked right up awful fast, and the third or fourth minute in there it started to hail.

"Question: And this was all prior to the time that you actually saw the aircraft?

"Answer: Yes.

"Question: And did you observe any movement in the weather that you were observing?

"Answer: Yes, sir.

"Question: Could you describe that movement?

"Answer: The weather, I stated, was moving from the west to the east.

"Question: Now, when you first observed the aircraft, Mr. Stoppelbein, was it flying?

"Answer: It was flying, yes; it was in the air, but it was just about stalled in the condition I have seen it.

"Question: You just used the term, stalled condition. Could you, for the edification of those of us who don't understand flying terminology, explain what stalled condition means?

"Answer: Yes, sir. A stalled condition of [Tr.177] an airplane in flight would be when it doesn't have enough forward motion to get lift on the wings, and when it loses forward motion, then it automatically—the aircraft loses its lift and it will stall and start to fall.

"Question: Is it fair to say that when you use the term, stalled condition, it means essentially that the aircraft is not moving fast enough to stay in the air?

"Answer: Yes, sir.

"Question: And that's essentially what you have just described to is, is it not?

"Answer: Yes, sir. It was too slow. You could see it was just about hanging there.

* * * * *

"Question: What is your best recollection of how high off the ground the aircraft was when you first saw it?

"Answer: A hundred and fifty feet.

[Tr. 178] "Question: Now, is that give or take seventy-five feet?

"Answer: I would say from a hundred to two hundred feet.

"Question: Did it ever go any higher during the time that you observed it?

"Answer: No, sir. That is what I observed, the stalled condition. It seemed to hang right there.

"Question: How far were you from the aircraft when you first observed it?

"Answer: 2500 feet. That would have to be give or take two or three hundred feet, one way or the other.

"Question: Could you see the aircraft clearly?

"Answer: Yes, sir. You could distinguish it was a Martin.

* * * * *

[Tr. 179] "Question: Well, was it anything in particular that prevented you from seeing the plane?

"Answer: Yes. As I stated, the storm was moving from the west to the east, and when I first observed the aircraft, it was coming out of the very stormy part of the field, the east part, and that was about where I related here on the Exhibit B there, I guess.

* * * * *

[Tr. 180] "Question: Could you describe where the storm was located in terms——

"When you first saw this aircraft, was the intensity of the storm the same throughout your entire vision?

"Answer: No, sir, no. It was the majority of the storm had moved to the east of the north and south runway, and it was clear, and visibility was extended over to the northwest which would be the west side of the north and south runway."

* * * * *

"Question: And were the sounds of this aircraft that you heard on July 2 the sounds you would normally associate with a Martin aircraft on take off?

"Answer: Yes, sir.

"Question: Was there anything unusual about the sound of the aircraft?

"Answer: No, sir."

* * * * *

"Question: When you heard these motors, did you look over to the head of Runway 28? In other words, the easterly end?

"Answer: I might have looked over there. [Tr. 181] There wasn't much to see. It was blanketed in thick.

"Question: That's what I am getting at. What was the weather in that area? I am talking about the area over at the easterly end of Runway 28 when you first heard the motors.

"Answer: It was very very dark and looked like there was turbulence. You could see the clouds rolling and you could sort of visualize and see that the storm was moving from the west to the east, because that's where it was lighter over to the west. Over the east part of the field was still black."

* * * * *

"Question: And now my question has to do with the

visibility towards the easterly end of Runway 28, in other words, northeasterly from where you were standing during this five-minute interval.

"Answer: During that time in that direction I would say again the same, four to five hundred feet.

"Question: You could see about a distance of four or five hundred feet as you looked towards the easterly end of Runway 28, is that correct?

[Tr. 182] "Answer: It would be the northeast, yes, sir.

* * * * *

[Tr. 183] The CLERK: Plaintiff's Exhibit No. 18.

(Whereupon the map of Rochester-Monroe County Airport used on Bettinger Deposition was marked Plaintiff's Exhibit No. 18, for identification.)

(Whereupon counsel approached the bench and the following proceedings were held.)

The COURT: He was over here looking up this way.
It is very helpful to have the small charts.
That will be Plaintiff's 18 in evidence.

(Whereupon counsel resumed their places and the following proceedings were held.)

(Whereupon Plaintiff's Exhibit No. 18 was received in evidence.)

(Whereupon the following excerpts were read from the Deposition of Joseph L. Bettinger, Mr. Galiher reading the questions and Mr. Steele reading the answers.)

[Tr. 184] "Question: Just for the record, Mr. Bettinger, would you give the reporter your name and address?

"Answer: Joseph L. Bettinger, 150 Densmore Road."

MR. GALIHER: Are you ready?

MR. MURRAY: We are ready. I am sorry.

"Question: Here in Rochester?

"Answer: Yes.

• • • • •

"Question: Could you tell us, Mr. Bettinger, where you were employed on July 2, 1963?

"Answer: I was employed by Wilmorite, Inc., whose offices are in the Page Airways Building.

"Question: What business were they engaged in?

[Tr. 185] "Answer: They are developers and general contractors.

"Question: And what was your position with them?

"Answer: I was their Chief Engineer.

"Question: Doing essentially the same kind of engineering work that you are doing now?

"Answer: "Yes, supervising, building construction in general.

"Question: Do you have any aeronautical flying experience?

"Answer: Yes.

"Question: Could you tell me, first of all, did you have any flying experience in the military service?

"Answer: Yes.

"Question: Could you describe for me what that experience was?

"Answer: Well it was—I went through the Air Force Cadet training program, and I took an instructor's course in flying; and I instructed cadets for nine months. I went through transition school in C-109, which are a B-24 type of aircraft, and I flew overseas in the China-Burma-India Theatre.

[Tr. 186] "Question: Excuse me. Was that during World War II?

"Answer: During World War II, flying the C-109, and the C-54, which is a DC-4."

Mr. GALIHER: The bottom of Page 9, Line 21.

"Question: Now, Mr. Bettinger, if you would, would you think back to the afternoon of July 2, 1963, and

could you, if you would, tell us where you were on the afternoon of that day?

"Answer: Yes. I was on the south side of the airport at the Page Airways Building, my place of employment."

Mr. GALIHER: Page 12, Line 17.

"Question: Now, during the afternoon of July 2, 1963, did there come a time when you left the building that you have marked on this map?

"Answer: Yes. For the last time—I may have been outside looking at an airplane—but for the last time I left at 4:45 or something in the afternoon.

"Question: When you left the Page building, where was it your intention to go?

[Tr. 187] "Answer: To Chili Avenue, which is in the general direction to the north of the Airport, approximately a mile and a half from Page, two miles.

"Question: Now, when you left the Page Building, would you describe to us what weather existed as you observed it at that time?

"Answer: Well, there were a few large drops of water coming down. It was rather a warm day and I had a complaint in a medical building, the doctor's air conditioning wasn't working, and that's where I was going to see what the problem was, and as I went for my car out in the parking lot, I ran because I don't like water, and there were large drops. I ran to my car and got in and drove——

"Question: If you will, I would just like you to describe the weather as you observed it at the point before you drove anywhere. Was there any lightning that you observed?

"Answer: I believe there was some lightning, yes.

"Question: Could you tell us which direction the lightning was coming from?

[Tr. 188] "Answer: It seems to me it was to the east."

Mr. GALIHER: Page 14, Line 14.

"Question: What about the wind. What was the speed so far as you could tell?

"Answer: Well, the wind was just mild. I don't recall. I guess I would have to check with what my original testimony was, but it was mild. However, there was a dust devil located out in the Airport between the Page Building and the Terminal Building, a swirling dust storm, a dust devil, I call them, maybe fifty feet high that was out there, so there was some agitation in the air."

Mr. GALIHER: Page 15, Line 18.

"Question: Now, after leaving Page, did there come a time when you entered your car to embark on this trip?

"Answer: Yes.

"Question: And could you tell us where you drove your car?

"Answer: I drove out of the Page parking lot east on Scottsville Road to the easterly service road and proceeded in the general direction of Brooks Avenue."

[Tr. 189] Mr. GALIHER: Page 17, Line 18.

"Question: Now, during the course of your driving from the Page Building to this place where you have indicated you made your first stop, did you, during the course of that drive, observe any change in the weather?

"Answer: Yes. As I entered the service road or was driving on the service road, there again, I would have to refer to the original testimony, but the weather had started raining more severely. The few drops started building up into a rainstorm.

"Question: And this was your best recollection that this is when you entered the service road.

"Answer: Well, I believe when I got about opposite the Runway 25, which is this runway here (indicating).

"Question: All right, now, if you will, using the red

pencil, would you approximate for us your position when the rain increased as you have just described, using that pencil make a circle at that point."

Mr. STEELE: The witness then marked the exhibit with a circle.

[Tr. 190] "Question: This is your best recollection?

"Answer: Yes, opposite Runway 25 was when the rain started coming down fairly heavy."

Mr. GALIHER: Page 29, Line 5.

Would you go back to 26, please, Line 5.

"Question: Incidentally, this Mohawk Airliner, as you have described it, that you saw taxiing, could you at the time tell that it was a Mohawk Airliner?

"Answer: Yes."

Mr. GALIHER: 29, Line 5.

"Question: At some point the airliner, as it was taking off down the runway, disappeared from your sight, did it not?

"Answer: Yes. I could still——

"Question: What was it that caused it to disappear from your sight?

"Answer: The approaching rain, severe rainstorm."

Mr. GALIHER: 36, first line.

"Question: Did anything occur with respect to the intensity of the weather conditions at the position of your car at the time you lost sight of [Tr. 191] the Mohawk Airliner?

"Answer: Yes. The weather situation become increasingly worse as that aircraft went down the runway, and by this I mean you could see this weather moving towards the plane on the runway from the direction, more or less, the Terminal Building; from the northwest direction you could see approaching, shall we say, torrent heavy downfall of rain.

"Question: And did the weather condition at the

position of your car change, too, at about the same time?

"Answer: Yes.

"Question: How did it change?

"Answer: The car was hit by a heavy downpour accompanied by wind, and sometime during this period hail.

"Question: Did you see hail?

"Answer: Yes.

"Question: Could you give us an estimate of the size of the hailstones that you observed?

"Answer: Probably a quarter- to a half-inch on some."

[Tr. 192] Mr. GALIHER: 38, Line 19.

"Question: Now, Mr. Bettinger, you have testified that you have lived in Rochester essentially all of your life, with the exception of your college years and your military service. Would you, please, based on your long experience here in Rochester, compare the storm which you observed on July 2, 1963 with others you had seen prior to that day, if you can?

"Answer: This storm was one of the most severe, if not the severest storm I have ever experienced."

.

"Question: Mr. Bettinger, you gave a statement as distinguished from your CAB testimony to the Civil Aeronautics Board, did you not?

"Answer: Yes.

"Question: And if I may read an excerpt from that statement:

" 'The plane came to a halt at the end of the strip and stood for approximately thirty seconds.'

"Does that refresh your recollection as to the time or the duration of time that the plane [Tr. 193] stopped?

"Answer: Yes, if that's what the record was, this would be in keeping with the time factor."

Mr. GALIHER: Page 48.

"Question: So would thirty seconds be a fair statement?

"Answer: Yes."

"Question: No, I am talking about the visibility in the direction of the north-south runway which on that day you stated you could see almost to that point. Now that to me means that you could not see to that point but some distance short of it, is that correct?

"Answer: Yes. The runway was used as an indicator.

"Question: And how far short of it was your visibility at that juncture; how far short of the north-south runway was your visibility at that juncture?

"Answer: Well, throughout my testimony I tried to be conservative in my thinking, and I [Tr. 194] would say it was very close to the north-south runway.

"Question: Mr. Bettinger, could you give us any estimate in feet?

"Answer: It would only be a guess. If I said two hundred feet, I mean, this is kind of tying things down pretty closely."

Mr. GALIHER: Page 61, Line 12.

"Question: I won't pursue that. Do you know what the distance was that separated the runway lights on Runway 28 on July 2, 1963?

"Answer: I believe they are in the neighborhood of two hundred to two hundred and fifty feet. I am not sure of the correct distance.

"Question: And I believe your answer to Mr. Wagner was that the aircraft disappeared after it had traversed the distance equated by four or five runway lights, is that right?

"Answer: Yes, this would be approximately right.

"Question: So when the silhouette of the aircraft

disappeared, it was approximately eight hundred to a thousand feet from you?

[Tr. 195] "Answer: Yes. It could be as great as twelve hundred, but you must understand that counting runway lights, I mean, as a standard of measurement with nothing, this was my recollection. Approximately, yes, I would say in the range of a thousand or twelve hundred feet.

"Question: Let's forget the runway lights for the moment. I will simply ask you what is your estimate distancewise of the plane from you as the silhouette disappeared?

"Answer: Well, we would have to add on probably another four hundred feet or so to that thousand or twelve hundred feet, so that would be, say, less than a third of a mile.

"Question: Pardon?

"Answer: Less than third of a mile. Around fifteen hundred feet, or something like that."

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[Tr. 196] MR. MURRAY: Your Honor, needless to say, we don't [Tr. 197] know why the plane crashed because, of course, the two crew members who were in the cockpit have been killed. All we know is mechanical analysis of the wreckage after the crash did not reflect any mechanical difficulties with the aircraft and it appeared to be in proper working order.

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[Tr. 205] (Whereupon the following excerpts were read from the Deposition of Carl A. Di Stasio, Mr. Steele reading the questions and Mr. Galihier reading the answers.)

MR. STEELE: This is the testimony, as shown, of Carl A. Di Stasio, 80 West Cavalier Road, Scottsville, New York, who after being duly called and sworn, testified as follows:

"Question: You are Mr. DiStasio?

"Answer: Yes.

"Question: And where do you live?

"Answer: 80 West Cavalier Road in Scottsville.

"Question: What is your present employment?

"Answer: With the Federal Aviation Agency.

"Question: In what capacity?

"Answer: I'm an Air Traffic Control Specialist.

"Question: And you are assigned to Rochester?

"Answer: Yes.

[Tr. 206] "Question: And were you so employed on July 2, 1963, at the time of Mohawk Airlines crash?

"Answer: Yes, I was.

"Question: And at that time, were you in the Tower Cab on that day?

"Answer: Yes.

"Question: And in what capacity?

"Answer: I was the Ground Controller and Flight Data.

"Question: I'm talking about now the Tower Cab at the Rochester Airport?

"Answer: Yes.

"Question: And when did you come on duty?

"Answer: Well, local time was three o'clock. Greenwich add four, fifteen, is nineteen hundred, I think.

"Question: Let's speak in terms of Eastern Daylight Savings Time, shall we, throughout this testimony?

"Answer: All right.

"Question: What time did you come on duty in so far as Eastern Daylight Savings Time is [Tr. 207] concerned?

"Answer: Three o'clock in the afternoon.

"Question: And when you came on duty, did you familiarize yourself with the weather conditions that day?

"Answer: Yes.

"Question: And what did you do to familiarize yourself with the weather?

"Answer: Well, I read the forecast, observed the current weather values which were posted, and the severe weather forecast was brought to my attention.

"Question: And what facilities do you have in the Tower for receiving weather information?

"Answer: We have Service—what we call Service A teletype, and, of course, Telautograph.

"Question: And what is the Telautograph?

"Answer: Well, to describe the Telautograph, it's—well, it's a method of receiving weather that is transmitted from another station. We are inter-connected.

"Question: Well, this particular Telautograph in the Cab is connected with the Weather Bureau?

[Tr. 208] "Answer: Yes.

"Question: At the Rochester Airport?

"Answer: Yes.

"Question: And you can receive or send the messages on the Telautograph between the Tower Cab and the Rochester Weather Bureau?

"Answer: Yes.

"Question: And have you any other sources of weather information available to you in the Cab other than what you have mentioned?

"Answer: At this particular time, available to us? Well, the Weather Bureau radar might be considered to be available to us, we had—for equipment, if equipment is your—your question has to do with equipment, I would say—

"Question: Yes.

"Answer: —that the Weather Bureau radar is a possible source.

"Question: Where is this radar located with respect to the Cab?

"Answer: The Weather Bureau radar?

"Question: Yes.

"Answer: In the Weather Bureau.

[Tr. 209] "Question: In the Weather Bureau?

"Answer: Yes.

"Question: And how would you get information concerning the weather that was shown on the Weather Bureau radar?

"Answer: Well, we received hourly on the teletype—

at that particular time, we received hourly radar reports. They were summaries of radar information that were accumulated by several Weather Bureau stations.

"Question: Now, would you describe in general your duties as Ground Controller in so far as departing airplanes are concerned?

The COURT: May I interrupt there a minute?

When you are talking about the Cab, are you talking about what the Court knows as the Tower?

Mr. GALIHER: Yes, sir.

Mr. MURRAY: That is correct, glass-enclosed.

The COURT: I had never heard that expression, Cab.

Mr. SILVERMAN: The entire building is called the Tower and the Cab is where they have visual reference to the aircraft, the glass-enclosed portion.

[Tr. 210] "Question: Now, would you describe in general your duties as Ground Controller in so far as departing airplanes are concerned?

"Answer: Well, as far as departing aircraft are concerned, once we have received a request—that is, if and when Ground Control receives a request for taxi instructions for take-off, it would be the duty of the Ground Controller to advise or transmit a taxi clearance or taxi information to the pilot. That is, directing him to the runway, issuance—at that time, it's required, the issuance of wind velocity and direction, altimeter setting, and a time check, in that order.

"Question: Now, did you receive such a request from Flight 112 on July 2, 1963?

"Answer: Yes.

"Question: Can you tell us approximately what time you received the request?

"Answer: At approximately forty-four minutes past four o'clock.

[Tr. 211] "Question: Daylight Savings Time?

"Answer: Yes. I—

"Question: What did you do in response to that request?

"Answer: I issued taxi instructions to the aircraft.

"Question: And this is by radio communication with the aircraft?

"Answer: Yes, sir.

"Question: Between the Tower Cab and the aircraft?

"Answer: Yes.

"Question: And what did you do—what information did you supply the aircraft with?

"Answer: I supplied him with the wind direction, velocity, altimeter setting and time check.

"Question: You recall what those were?

"Answer: Well, I approximated them, the wind direction was, as I recall, about three hundred degrees, and that would—and a velocity, I believe, the report is ten to fifteen, or fifty—fifteen to twenty knots.

"Question: And what runway did you instruct him [Tr. 212] to take, or what taxi runway?

"Answer: Do you mean what runway did I clear him to?

"Question: Yes.

"Answer: To Runway 28.

"Question: Now, did you give him any other information, that is, the pilot of Flight 112, did you give him any other information other than what you just stated on the record?

"Answer: Well, I gave him an IFR clearance.

"Question: Which is what?

"Answer: Well, an IFR—what is a clearance?

"Question: When you say you gave him an IFR clearance, what did you do?

"Answer: Well, the first action, since he advised me he was IFR to White Plains, that is, Mohawk 112 did, first was to make a request to the office that would—that controlled the air space for a clearance. In this case, it was the Cleveland Air Route Traffic Control Center, and upon receiving a clearance from that office—

"Question: From Cleveland?

"Answer: I wrote it down on the flight [Tr. 213] progress strip as I received it, and I transmitted it to Mohawk 112.

"Question: Did you give him any other information?

"Answer: In addition to the clearance which I received from Cleveland, I advised Mohawk 112 to maintain departure heading for radar Vectors to Victor 34.

"Question: Now, did you give him any information about the weather other than what you have stated? That is, the wind direction and velocity?

"Answer: No, I did not."

Mr. STEELE: Skipping to Line 13 on that same page.

"Question: You state that you were aware, however, of the severe weather warnings that had been put out that afternoon prior to Flight 112's departure?

"Answer: Yes.

"Question: And it's true, is it not, that your position in the Tower Cab looks north, generally north, towards the Airport Terminal?"

Mr. STEELE: There was an objection and the question repeated.

[Tr. 214] "Question: Which direction does your Tower Cab look out in?

"Answer: North.

"Question: Towards the Terminal?

"Answer: Yes.

"Question: And is the Tower Cab glassed-in on all sides?

"Answer: Yes, that is, from about this height.

"Question: And you are indicating a height of about two and a half or three feet?"

Mr. GALIHER: There was a colloquy and that question was never answered and this one was asked.

"Question: And how high is the ceiling?

"Answer: The ceiling is about eight and a half feet, maybe nine.

"Question: So that from thirty inches up to the ceiling there is a complete glass enclosure in so far as the Tower Cab is concerned?

"Answer: Yes.

"Question: And from your position in the Tower Cab, are you able to see north?

"Answer: Yes.

[Tr. 215] "Question: And were you able to see north on this particular day?

"Answer: Yes.

"Question: Were you able to see to the east?

"Answer: Well, yes.

"Question: And to the west?

"Answer: Yes.

"Question: And did you observe Flight 112 as it taxied out on the runway? To the runway, rather?

"Answer: Yes."

Mr. STEELE: Turning now to Page 2688.

"Question: If and when the visibility goes below four miles . . ."

Mr. STEELE: I am sorry, that is an answer. We will ask the last question on 2687.

"Question: And what additional duties would he have?"

Mr. STEELE: "He" meaning the Local Controller.

"Answer: If and when the visibility goes below four miles the Local Controller takes the observation. That is, he takes the visibility check.

"Question: And if it's over four miles, whose duty is it to take visibility?

[Tr. 216] "Answer: The Weather Bureau.

"Question: And that's the U. S. Weather Bureau at the Rochester Airport?

"Answer: Yes.

"Question: Now, after the crash, that is, after Flight 112 crashed at the end of the runway, did you make any

observations in so far as visibility was concerned at that time?"

Mr. STEELE: There was an objection.
There is an answer.

"Answer: I observed that after the crash, the crash scene was completely obscured. Couldn't see anything out there.

"Question: This was immediately after the crash?

"Answer: Yes.

"Question: What, within the matter of a half-minute or less?

"Answer: Oh, as to the length of time, I'd say within a minute would be correct.

"Question: And you say that the crash site was completely obscured? That is, to your vision?

"Answer: To my vision, yes.

[Tr. 217] "Question: And when you say, completely obscured, what do you mean?

"Answer: That I couldn't see the aircraft. That I couldn't see the aircraft."

Mr. STEELE: Turn to 2693, Line 2.

"Question: Had you been aware of any high wind or a change in the wind from the time you received the taxi request from Mohawk Flight 112 to the time when he started his take-off, would it have been your duty to have warned the pilot of the fact?

"Answer: Well, he wasn't on my frequency.

"Question: Oh, while he was on your frequency, would it have been your duty to have warned him?

"Answer: Yes."

Mr. STEELE: Turn now to Page 2695, Line 4.

"Question: Had there been any change in wind direction, or had there been any high wind, would it have been someone else's duty in the Tower to advise the pilot of such fact or facts after he left your frequency?

"Answer: To have informed the pilot of a wind change, yes.

"Question: And whose duty would that have been?
[Tr. 218] "Answer: Well, depending on who was talking to the aircraft.

"Question: Well, when he leaves your frequency, who takes over?

"Answer: Local Control.

"Question: Then what—would it have been the Local Controller's duty to have warned him of a change in the wind or high winds?

"Answer: It would have been the Local Controller's duty to have advised him of a wind change that might—might have suggested to the pilot that an alternate runway could be available."

Mr. STEELE: Turning now to 2698, Line 9.

"Question: Now, you have made some mention in your testimony concerning a Telautograph in the Tower Cab, is that right?

"Answer: Yes, I have.

"Question: And this Telautograph is a means of sending messages to and receiving messages from the Weather Bureau at the airport, is that right?

"Answer: That's part of it, yes.

"Question: What other function did it have?

[Tr. 219] "Answer: Well, United Airlines and American Airlines have receivers on this.

"Question: Yes. I was speaking strictly of the Telautograph in the Tower Cab. The only connection that the Telautograph has is with the U. S. Weather Bureau, isn't that right?

"Answer: No, because we can transmit on it, too, and United and American can receive also.

"Question: All right. Now, did there come a time prior to this crash that the Cab received a message from the Weather Bureau on the Telautograph?"

Mr. GALIHER: And then it goes down to Line 15 to get the answer.

"Answer: Well, we received the four hundred weather."

Mr. MURRAY: Wait a minute. You missed the answer to that question.

Mr. GALIHER: I will go back and read it, if you wish.

"Answer: I wasn't aware that the Tower had received a message."

Mr. GALIHER: Is that the one you mean?

[Tr. 220] Mr. MURRAY: Yes, that is the answer to the question.

"Question: Prior to the crash.

"Answer: Well, by 'prior to the crash,' how much time?

"Question: At any time prior to the crash.

"Answer: At any time?

"Question: Yes.

"Answer: Well, we received the four hundred weather.

"Question: Oh, I mean during the hour—

"Answer: I don't mean four hundred. I mean four o'clock local time.

Mr. STEELE: 2700.

The COURT: Now, that is a little confusing. That comes down to the fact that the only severe weather report that this man had, he says, is the 4:00 p.m. weather, is that right?

Mr. GALIHER: Yes, sir.

Mr. STEELE: It is the only one he saw. The testimony will be that Telautograph message came in at forty-three minutes after the hour but it was not brought to his attention.

The COURT: The only one he, himself, received or was [Tr. 221] aware of was the four o'clock one, is that right?

Mr. GALIHER: Yes, sir.

Mr. MURRAY: May I interject one thing there? That would be the four o'clock regular sequence.

The COURT: The hourly weather sequence that there was other testimony about yesterday.

Mr. MURRAY: Correct, Your Honor. Not a severe weather warning.

The COURT: Yes.

Mr. STEELE: Turn now to Page 2700, Line 15.

"Question: I show you Plaintiff's Exhibit 40-A, for identification, and ask—which has been stipulated between counsel here as being a copy of a Telautograph message sent by the U. S. Weather Bureau to the Tower Cab on July 2, 1963, and ask you whether you saw that message at any time prior to the crash?"

And then there is a statement by counsel asking, is that referring to the S2042Z message.

And the answer of counsel is, that is right, he is referring to that message.

The COURT: This is the key message that the case is concerned with that you are talking about now?

Mr. GALIHER: Yes, sir.

[Tr. 222] "Answer: 2042. Can I see the subsequent report?"

Mr. STEELE: Now jumping down to Line 14 on Page 2701.

"Question: Now, again referring to Exhibit 40-A, is there more than one message on that exhibit?"

"Answer: Yes, if you consider that they are separated by the two times here, it would be.

"Question: All right. When was the first message sent?

"Answer: On the hour, or at four o'clock, Eastern Daylight Time.

"Question: And what does that say?

"Answer: 'Estimated ceiling five thousand, broken, one two thousand broken, visibility eight miles, temperature—' must be ninety-four, is that correct? I haven't seen ninety-four since. Dew point was sixty-six. Wind was west southwest at one six, and altimeter was twenty-nine seventy-six.

"Question: Now, that message that you just read was sent at four o'clock Eastern Daylight Savings Time?

"Answer: Yes.

[Tr. 223] "Question: From the Weather Bureau?

"Answer: Yes.

"Question: And received in the Tower Cab?

"Answer: Yes.

"Question: Now, is there another message on Exhibit 40-A other than the message you just read?

"Answer: Yes.

"Question: When was that sent?

"Answer: At 2042 Greenwich.

"Question: And what time is that Daylight Savings Time?

"Answer: Which would be Daylight Savings Time four-forty-two.

"Question: And this is on July 2nd?

"Can we stipulate?"

Mr. STEELE: It was so stipulated by counsel.

"Question: We will stipulate it's on July 2nd.

"Answer: Yes, there's no indication here that—

"Question: What does that message that was sent by the Weather Bureau at four-forty-two Daylight Savings Time on July 2nd say? Would you read it?"

Mr. STEELE: There was an off-the-record discussion [Tr. 224] and the question is put forth as follows:

"Question: Let the record show that the time of the observation is four-forty-two. Does the message show at what time the sender of the message signed off?

"Answer: It does.

"Question: What time was that?

"Answer: Well, he shows here fifteen-forty-three eastern, which—

"Question: Would be what?

"Answer: Local time would be four-forty-three.

"Question: Now, what does that message say?

"Answer: You would like me to read the report?

"Question: Would you?

"Answer: 'Estimated——'

"Question: I assume that you can.

"Answer: Yes, I am.

"Question: All right.

"Answer: 'Estimated ceiling five thousand, overcast. Visibility——'

"Question: Wait a minute. Just a minute. O. K.

"Answer: 'Visibility eight, thunderstorm—'

[Tr. 225] "Question: Eight miles?

"Answer: That's correct. 'Thunderstorm northwest, moving east. Frequent lightning, cloud to ground.' And the observation was signed off at fifteen-forty-three Eastern.

"Question: Is there any observation about the wind velocity and direction there?

"Answer: No, sir.

"Question: Now, at any time before the crash did you see or were you aware of the information contained in that last message?

"Answer: I was not.

"Question: And the sending of this message by the Weather Bureau and the receipt of it by the Tower Cab is practically instantaneous, isn't it?

"Answer: Yes.

"Question: And is there some means by which the Weather Bureau calls the Cab's attention to the fact that it is sending a message over the Telautograph?

"Answer: Yes.

"Question: And what means is that?

"Answer: There is a buzzer on it.

"Question: And what's the purpose of the [Tr. 226] buzzer?

"Answer: To call attention to a transmission.

"Question: Is the buzzer to immediately alert the Tower Cab to the fact that the U. S. Weather Bureau is sending a message?

"Answer: Yes.

"Question: So that it won't go unnoticed by the Tower Cab personnel?

"Is that right?

"Answer: Yes.

"Question: And do you have any recollection of having heard the buzzer on the Telautograph ring prior to the crash and around four-forty-three that afternoon?

"Answer: No, sir.

"Question: And how far was the Telautograph ma-

chine from your position in the Cab at four-forty-three on July 2, '63?

"Answer: Well, it would have to be seven feet from the center of the position that I was occupying.

"Question: And seven feet where, to your right or left?

[Tr. 227] "Answer: To my left.

"Question: And in front of you or beside you or behind you?

"Answer: To my left.

"Question: Immediately to your left?

"Answer: Yes."

.

"Question: Is there anything that is there, a chair or piece of equipment between where you were sitting and this Telautograph machine?

"Answer: Well, there's another position in the Tower.

"Question: And what position is that?

"Answer: The FSS.

"Question: You'll have to translate that.

"Answer: Well, the Flight Service Station position would be between the Ground Controller and the machine. That is, the Telautograph.

"Question: And is there a chair in this space?

"Answer: Yes.

"Question: At four-forty-three, do you recall whether it was occupied or not?

"Answer: I believe it was.

[Tr. 228] "Question: By whom?

"Answer: The Flight Service Specialist.

"Question: And what are his duties?

Mr. STEELE: There is interruption by counsel saying:

"May I have his name?

"Answer: Robert Howell.

"Question: What are his duties, generally, and in layman's language?

"Answer: He has an awful lot of duties. I——

"Question: What were his duties at this particular time?

"Answer: At this particular time, at four-forty-three, he was preparing to make a weather broadcast.

"Question: And are you aware of whether he had this message of four-forty-three, that Telautograph message, in front of him at any time between four-forty-three and the crash?

"Answer: No, sir, I was not.

"Question: You don't know whether he did or not?

"Answer: I don't know whether he had it or not.

"Question: Was it Mr. Howell's duty to take the information off the Telautograph?

[Tr. 229] "Answer: Yes.

"Question: And do you know whether he did or not?

"Answer: Well, I'm certain he did. It's his duty to do so."

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[Tr. 232] Mr. STEELE: If the Court will recall, we are referring to the Flight Service Specialist.

The COURT: Howell.

"Question: What are his duties, generally, and in layman's language?

"Answer: He has an awful lot of duties, I——

"Question: What were his duties at this particular time?

"Answer: At this particular time, at four-forty-three, he was preparing to make a weather broadcast.

"Question: And are you aware of whether he had this message of four-forty-three, that Telautograph message, in front of him at any time [Tr. 233] between four-forty-three and the crash?

"Answer: No, sir, I was not.

"Question: You don't know whether he did or not?

"Answer: I don't know whether he had it or not.

"Question: Was it Mr. Howell's duty to take the information off the Telautograph?

"Answer: Yes.

"Question: And do you know whether he did or not?

"Answer: Well, I'm certain he did. It's his duty to do so.

Mr. STEELE: Skipping a few lines.

"Question: Was he sitting right next to you?

"Answer: Yes.

"Question: Between you and the Telautograph machine?

"Answer: Yes.

"Question: Right by your left side?

"Answer: Yes.

"Question: And at any time between four-forty-three and the crash, did he call your [Tr. 234] attention to this Telautograph message that we have been referring to here?

"Answer: No.

"Question: Was the traffic at the time Flight 112's departure heavy?

"Answer: No. By, 'traffic,' do you mean ground control?

"Question: Yes.

"Answer: No. The answer is, no.

"Question: Was there any other plane on the field that you were handling at the time that—between the time 112 requested taxi information and the time of 122's crash?

"Answer: No.

"Question: Do you know whether a flight or an aircraft had taken off shortly before Flight 112's departure?

"Answer: Yes.

"Question: What aircraft was that?

"Answer: It was American Airlines Flight 453.

"Question: And did that use the same runway that Mohawk used? That is, Mohawk Flight 112?

"Answer: Yes.

[Tr. 235] "Question: And do you know how long before Flight 453 had taken off—that is, how long before Flight 112 started its take-off had Flight 453 departed?

"Answer: American 453 was reported at forty-five.

"Question: Four-forty-five?

"Answer: Yes.

"Question: Eastern Daylight Time?

"Answer: Yes, sir.

"Question: Is that right. And what time did you report—or did you report Mohawk off the ground?

"Answer: I did, yes.

"Question: And what time did you report Mohawk off the ground? That is, Flight 112?

"Answer: I reported Mohawk—do you want to know what time I delivered as the off time?

"Question: Yes.

"Answer: For Mohawk?

"Question: Yes.

"Answer: Four-forty-nine.

"Question: That's four-forty-nine Daylight Savings Time?

[Tr. 236] "Answer: Yes."

Mr. STEELE: Skipping down on Page 2711 to Line 21.

"Question: Well, have you had any training in weather observation? Do you hold any certificate?

"Answer: I hold a certificate that permits me to make visibility checks.

"Question: And what training do you get for that?

"Answer: We—it's a self-study with supervision. Study of Circular N, as in November, and upon satisfying a supervisor that you know enough about taking visibility checks, why, you are permitted to take an examination from the U. S. Weather Bureau.

"Question: Who gives the examination?

"Answer: The U. S. Weather Bureau.

"Question: And who issues the certificate?

"Answer: U. S. Weather Bureau.

"Question: And you hold such a certificate?

"Answer: Yes, I do.

"Question: Have you had any other training in so far as weather observation is concerned than you mentioned?

"Answer: No.

[Tr. 237] "Question: This Cab in which you were sitting at the time Flight 112 took off, can you tell me how far above the ground it is?

"Answer: I believe it's forty feet, or close to forty feet.

"Question: Prior to a plane's departure, is it your duty to be familiar with the weather in so far as it's put out by the Weather Bureau?

"Answer: The current values as reported by the Weather Bureau?

"Question: Yes.

"Answer: Yes.

"Question: And before you gave taxi instructions, is it your duty to satisfy yourself that—on the safety of the clearance?

"Answer: The safety of the clearance for what, sir?

"Question: For taxi.

"Answer: Yes.

"Question: And is it your duty to warn a pilot of high winds?

"Answer: It's my duty to report the winds as they are at that particular time that I'm talking to him.

[Tr. 238] "Question: Did you give any warning of any high winds to Flight 112?

"Answer: No, sir.

"Question: Have you had occasion to warn pilots in the past, that is, prior to July 2, 1963, of high winds?

"Answer: Well, as I answered your previous question, to report the winds as they are is the duty of the Ground Controller.

"Question: All right. Is the duty of the Ground Controller?

"Answer: Yes.

"Question: And you were the Ground Controller?

"Answer: Yes.

"Question: Would it have been your duty to have conveyed the information on the Telautograph message that was sent at four-forty-three to Flight 112, had you been aware of it?

"Answer: No, sir."

.

"Question: Mr. DiStasio, if, prior to an aircraft's departure, you observed any weather phenomena which might affect its departure, what procedure would you follow?

[Tr. 239] "Answer: Well, I may advise the pilot, the crew."

.

"Question: If you observed thunderstorms that might be accompanied by high winds, what is your procedure?

"Answer: Well, my procedure would be to indicate to the pilot the winds at the present time and the variability, if you anticipate there's going to be a variability in the wind. That would be the extent of it.

"Question: And if you had had this Telautograph message that was sent by the Weather Bureau at four-forty-three Eastern Daylight Saving Time, would you have been aware of the possibility of high wind that might have affected Flight 112's departure?

"Answer: Well, since a high wind is characteristic, I think, of a thunderstorm, I would have been alert to the possibility."

.

"Question: What are the messages sent to the Tower Cab for, then? This type of message?

[Tr. 240] "Answer: To keep the Tower informed as to the current values.

"Question: Current values of what?

"Answer: Ceiling, visibility, and such things as are mentioned on this.

"Question: Well, for what purposes? Not for academic purposes, is it?

"Must be some practical purpose to have these messages sent from the Weather Bureau to the Tower, isn't there?

"Answer: Yes.

"Question: And what's the practical purpose of it?

"Answer: To keep us informed.

"Question: So that you may do what as Ground Controller?

"Answer: As Ground Controller?

"Question: Yes.

"Answer: So if the Ground Controller deems it necessary to pass along this information, he will have it.

"Question: Then I would assume it would be customary for you at some point or another to receive [Tr. 241] this type of information such as is set out in that Telautograph message of four-forty-three?

"Answer: I would see it.

"Question: You would see it?

"Answer: Yes.

"Question: And is it the practice, in so far as the Tower Cab personnel is concerned, to pass on such information to the Ground Controller?

"Answer: When you say, 'pass on,' I don't physically handle this."

Mr. STEELE: The question is:

"All right. What do you mean by 'pass on'?"

Then there is colloquy with counsel. Then the question:

"Question: Would they verbally—is it the practice to verbally inform you of such messages?

"Answer: It's not customary, it's the—to orally call the ground controller's attention to anything specific as regards weather. This weather is—would be posted

in its proper place, and I can see it from its proper place.

"Question: This message was a particular message reflecting a change in the weather pattern [Tr. 242] for that day, wasn't it?"

.

"Question: Well, was the information contained in this Telautograph message, or did such information reflect a change in what had been previously reported in so far as the weather conditions for this area?"

"Answer: Yes.

"Question: It did. It reflected a change in the weather condition?"

"Answer: Yes, sir."

.

"Question: All right. Well, would it be the normal practice for you to be advised of the information contained in this message?"

"Answer: It would be up to me to see it after it was posted in its proper place."

.

"Question: What's the purpose of the buzzer on the Telautograph?"

"Answer: To call the attention of the facility receiving the message to the Telautograph.

"Question: So that the Tower Cab will immediately be aware of the contents of the message, [Tr. 243] is that right?"

"Answer: Yes.

"Question: All right. Now, on July 2, 1963, was it or was it not the practice for you to be advised, as Ground Controller, of such information as is contained in that message of four-forty-three?"

"Answer: I would apprise myself of the contents of such a message, and any other message pertaining to

weather by observing it when it reaches its proper place in the facility.

“Question: Regardless of the urgency? Is that right?”

“Answer: Well, I don’t—it’s hard to say. I don’t—our policy is to remove the weather, post it in its proper place, and it’s our obligation to read it.”

Mr. STEELE: Turning to 2735, Line 6.

“Question: If it’s an important message, or one that another tower control man feels that it is important for you to receive, he will pass it on to you directly, is that right?”

“Answer: Yes, particularly if we reached [Tr. 244] the point where it’s my obligation to deliver the current values to a pilot who is taxiing out.”

Mr. STEELE: Now Line 20 on the same page.

“Question: Now, had you been aware of the contents of that Telautograph message of four-forty-three, what would have been your procedure, in so far as Flight 112 is concerned?”

“Answer: I wouldn’t have done anything about it.

“Question: Now, getting back to this question as to whether or not it would have been your practice to have related the information contained in the Telautograph message of four-forty-three to the pilot of 112, had you been aware of the contents of the message, I refer you to the Civil Aeronautics Board testimony at Page 345, where you were asked this question:

“Answer: May I look at it?”

“Question: Sure you can.

“Where you were asked this question:

“‘Now, if you had received this weather report which is in Exhibit 8-I prior to issuing clearance to taxi to Mohawk Flight 112, would any of your [Tr. 245] regulations or rules by which you must operate require you to pass this information to the flight?’

And your answer was:

" 'I believe it would, yes.'

"Isn't that correct?

"Answer: That was my answer, yes."

• • • • •

"Question: You have acted both in the capacity of Traffic Control and Ground Control, haven't you? Or Local Control and Ground Control?

"Answer: Yes.

"Question: And this was prior to July 2, '63, that you have acted in both capacities?

"Answer: Yes.

"Question: Now, are you, in so far as your duties as Air Traffic Control Specialist, governed by Air Traffic Control procedures put out by the Federal Aviation Agency?

"Answer: Yes."

Mr. STEELE: Turn now to Page 2754, Line 2.

"Question: For instance, Section 414.1 of Exhibit 47, which has been certified as the manual, an accurate copy of the Air Traffic Control [Tr. 246] Procedures in effect as of the date of this accident.

"What does that say?

"Answer: Would you like me to read the whole paragraph?

"Question: Yes.

"Answer: 'Airport traffic controllers may transmit to pilots and air traffic control facilities without prior reference to the weather reporting station elements of weather information derived directly from instruments or radar, such as wind direction and velocity, altimeter settings, locations of storms and areas of precipitation. Observed general weather conditions——'

"Question: Wait, there's a period after 'precipitation.'

"Answer: Yes.

"Question: Then the next sentence is: 'Observed'——

" 'Observed general weather conditions such as "large breaks in the overcast," "visibility lowering to the south," or similar statements which do not include specific values, shall be transmitted and should also be forwarded to the local weather [Tr. 247] reporting station.'

"Question: And do you consider that that section governed your activities as one of the Air Traffic Controllers in the Tower on July 2, 1963?

"Answer: Yes."

* * * * *

"Question: Now, when are you permitted, as a Local Controller, to deny clearance for a take-off or an IFR flight such as Mohawk Flight 112? That is, under what circumstances?

"Answer: When the visibility is less than a quarter of a mile."

* * * * *

[Tr. 248] "Question: Was it Mr. Thorp who issued a take-off clearance pursuant to a request from the pilot, to your knowledge?

"Answer: Yes.

"Question: Was that his responsibility?

"Answer: Yes.

* * * * *

[Tr. 249] " 'Did you issue to Mohawk Flight 112, prior to turning him over to the Local Controller'——

"Question: —a clearance limit?

"Answer: Yes.

"Question: What was the clearance limit?

"Answer: White Plains Airport.

"Question: Did you authorize Mohawk 112 to enter Runway 28?

"Answer: No.

"Question: Did you clear him to Runway 28, to hold short of Runway 28?

"Answer: Yes.

"Question: Was that his clearance at the time you turned—was that the clearance limit, aside from White Plains, at the time you turned him over to Mr. Thorp, the Local Controller?

"Answer: That's correct.

.

[Tr. 250] "Answer: Yes. Is that what you would like?

"Question: I would like you to tell us what you told Mohawk 112 with regard to the route of flight and the altitude and flight levels. Do you have an independent recollection of that, specifically?

"Answer: Well, he was cleared to the White Plains Airport. My memory serves me correct, he was Victor 34, Victor 126 . . ."

Mr. GALIHER: Mr. Silverman, may we agree at this point that this means a specified airway—

Mr. SILVERMAN: An airway.

.

[Tr. 251] "Question: Whose duty, if anyone's, under the particular circumstances, was it to observe visibility conditions?

"Answer: The Local Controller's.

"Question: Were there prescribed circumstances under which he was obliged to describe visibility?

"Answer: Yes.

[Tr. 252] "Question: Under what circumstances was he obliged to observe visibility?

"Answer: When the visibility was below four miles."

Mr. STEELE: Page 2786, Line 21.

"Question: Now, what was the procedure to be followed—

"Strike it.

"Under what circumstances, if any, was the Local Controller obliged to look in all quadrants for prevailing visibility?

"Answer: When, in his opinion, it came below four miles.

"Question: Prior to the time the visibility decreased to below four miles, what obligation if any did he have to observe prevailing visibility?

"Answer: Well, his obligation was to be on the alert for a lowering of visibility, and when he detects a lowering, that is, when it goes below four miles, he would then begin to make the observation."

MR. STEELE: Go to Line 16 on the same page.

"Question: What occurs after the initial [Tr. 253] prevailing visibility is observed gone below four miles, and the report is made to the Weather Bureau? Something else happens after that?

"Answer: Yes, the Weather Bureau takes note of it, and I think they take a look at it, and decide whether he's right or not, or whether, under their authority, they can change it.

"Question: Well, when you say 'take a look at it,' you mean the Weather Bureau observer looks at all portions of the horizon and determines for himself what he can see and what prevailing visibility he has?

"Answer: Yes.

"Question: And then what procedure is followed?

"Answer: Well, if he agrees, a special weather report will be made up.

"Question: After the Weather Bureau observes prevailing visibility in circumstances where the Weather Bureau sees the same as the Tower visibility observer, is a determination then made as to what is the official prevailing visibility?

"Answer: Yes.

"Question: And does the Weather Bureau, under

[Tr. 254] those circumstances, then notify the Tower as to what the prevailing visibility is?

"Answer: They make up a special weather report and transmit it.

"Question: And transmit it on the Telautograph?

"Answer: On the Telautograph.

"Question: And then the—the Local Controller then knows what the official prevailing visibility is, correct?

"Answer: Correct.

"Question: Are there circumstances under which—

"Strike it.

"In your experience, have there been circumstances under which the visibility observed by the Weather Bureau was different from the visibility first observed by the Tower visibility observer when he has looked and seen it drop below four miles?

"Answer: Yes.

"Question: Are there circumstances under which the Weather Bureau's visibility supersedes that of the Tower visibility observer?

"Answer: Yes.

[Tr. 255-6] "Question: Under what circumstances?

"Answer: If the Weather Bureau observer determines that he has twice as much prevailing visibility as the Local Controller has, that will then become the official visibility.

"Question: What will become the official prevailing visibility under those circumstances?

"Answer: The weather observer's observation.

"Question: Are there any other circumstances under which the Weather Bureau's observation of prevailing visibility is the official prevailing visibility rather than the Tower visibility?

"Answer: Yes. I believe if the Tower is—is enshrouded in fog, say, and maybe the Weather Bureau is not, it's possible, this has happened, or it's been clear, clear down at the ground level, and visibility has been severely restricted in the Tower, and under those cir-

cumstances, the Weather Bureau's visibility would supersede the Local Controller's."

Mr. STEELE: Turning now to Page 2818 at Line 20.

"Question: Did you at any time take any visibility observations before the accident?

[Tr. 257] "Answer: No."

• • • • •

"Question: And now, sir, you have testified that you were unaware of the existence of the four-forty-two to four-forty-three p.m. Telautograph message before the accident, is that correct?

"Answer: That's correct.

"Question: Did you become aware of it after the accident?

"Answer: Yes."

• • • • •

"Question: In what position were Telautograph messages posted?

"Answer: In the Local Control position.

"Question: In front of the Local Control position?

"Answer: Yes.

"Question: From your seat in the Ground Control position, were you able to see what was written on the messages posted in front of the Local Control position without getting out of your seat?

"Answer: Take a little effort, yes."

• • • • •

[Tr. 258] "Where was Mohawk 112 when it requested taxi instructions?

"Answer: On the Terminal ramp.

"Question: Was it in motion at that time?

"Answer: I don't believe it was, no.

"Question: At what time did Mohawk 112 first call you on the Ground Control frequency?

"Answer: At about four-forty-four.

"Question: Were you looking at any clock at the time?

"Answer: Not on the initial call-up, I wasn't, no.

"Question: Now, at the time Mohawk 112 initially called you on the frequency, was the aircraft stationary or was it moving?

"Answer: It was stationary.

"Question: When you received his request for clearance to taxi, did you immediately give him the wind direction, velocity, altimeter and time check?

[Tr. 259] "Answer: Yes.

"Question: Did you give it to him at the time he was still stationary?

"Answer: I can't be sure about that, because quite often as soon as they call, and as I'm talking, they start moving—as the Ground Controller is talking, they will start moving.

"Question: With regard to Mohawk 112 at this specific date, at this specific time, you have no recollection one way or another?

"Answer: No, I do not.

"Question: What time check did you give him?

"Answer: I don't remember.

"Question: Mohawk 112 then proceeded to taxi from the Terminal area?

"Answer: Yes.

"Question: And you observed this?

"Answer: Yes.

"Question: You see him move along the taxiway?

"Answer: Yes.

"Question: Did you see him move along the Terminal area before reaching the taxiway?

"Answer: Yes.

[Tr. 260] "Question: Did he use the perimeter taxiway which leads to the head of Runway 28?

"Answer: Yes.

"Question: Did you see Mohawk 112 come to a stop

in the run-up area immediately adjacent to Runway 28 on the taxiway?

"Answer: I don't remember seeing him come to a stop.

"Question: Did you ask that aircraft——

"Strike it.

"Did you tell Mohawk 112 to contact the Local Controller on the Local Control radio frequency before the aircraft came to a stop or after it came to a stop?

"Answer: I believe it was before the aircraft came to a stop.

"Question: Where was the aircraft at the time that you told them to change radio frequencies?

"Answer: I believe he was still en route to the run-up area.

"Question: How close to the run-up area was he at the time? If you recall.

"Answer: I don't know.

.

[Tr. 261] "Question: So that you saw Mohawk 112 entering Runway 28 and for the first twenty-five or fifty feet on Runway 28?

"Answer: Yes.

"Question: Then what did you do?

"Answer: I was in contact with the Cleveland Center.

"Question: By telephone?

"Answer: By telephone.

"Question: And what did you tell Cleveland Center?

[Tr. 262] "Answer: In that time area I asked Cleveland to stand by for a departure time on Mohawk 112, and as soon as I saw Mohawk 112 start his roll, I gave a departure time to the Cleveland Center as forty-nine.

"Question: You say four-forty-nine p.m.?

"Answer: Pardon?

"Question: Four-forty-nine p.m.?

"Answer: Yes.

"Question: Is that what you mean by, 'forty-nine'?

"Answer: Yes.

"Question: Now, did you tell the Cleveland Center

four-forty-nine p.m. for Mohawk 112 during the time Mohawk 112 was in the first twenty-five to fifty feet on Runway 28?

"Answer: Yes.

"Question: Did you tell the Cleveland Center the time of take-off for American Air Lines 453?

"Answer: Yes.

"Question: What was the time for American 453's take-off?

"Answer: He was off at four-forty-five.

.

[Tr. 263] "Question: Did you hear him say, 'four-forty-five,' meaning four-forty-five p.m. at the time you saw American 453 lift off the ground?

"Answer: Yes.

"Question: Did he say this at the departure radar control?

[Tr. 264] "Answer: Yes.

"Question: And you heard this?

"Answer: I did.

"Question: So then the time of four-forty-five p.m.—

"Strike it.

"There was a clock in the Tower Cab at the time?

"Answer: Yes."

.

[Tr. 265] "Question: Now, for example, with regard to the clock in the Tower, for the time four-forty-five p.m., what would you see?

"Answer: Four-forty-five p.m.? You mean what could it be other than four-forty-five straight up?

"Question: What do you mean by four-forty-five p.m.?

"Answer: Well—

"Question: In relation to this clock.

"Answer: Well, in aviation parlance, four-forty-five

means anything from forty-four and thirty-one seconds to four-forty-five and twenty-nine seconds.

* * * *

[Tr. 266] "If the clock in the Tower Cab shows four-forty-four and thirty seconds, what do you read it as under those circumstances?"

"Answer: Four-forty-five."

* * * *

[Tr. 272] "Question: Now, between four-forty and four-fifty, p.m., did anyone in the Tower have the duty of removing the Telautograph messages that came over the Telautograph machine?"

"Answer: Yes.

"Question: Whose duty was that?"

"Answer: The Flight Service Specialist.

"Question: Mr. Howell?"

"Answer: Yes.

"Question: On what frequency was the four-forty-five p.m. weather broadcast issued?"

"Answer: It would be issued on the OMNI frequency, which would be 110.0."

* * * *

[Tr. 273] "Question: And did you hear Mr. Howell issuing the four-forty-five p.m. weather broadcast on that frequency?"

"Answer: I did.

* * * *

[Tr. 274] "Question: Well, you said that at approximately four-forty-four p.m., Mohawk 112 called you and requested a taxi clearance.

"Answer: Yes.

"Question: Now, did the weather broadcast that you heard Mr. Howell commence——

"Strike the question.

"Did Mr. Howell commence the four-forty-five p.m. weather broadcast before or after Mohawk 112 called on your Ground Control frequency for taxi instructions.

"Answer: Well, to the best of my recollection, I believe it was after my initial contact with Mohawk.

"Question: By approximately how long after?

"Answer: Gee, I couldn't say with any certainty. Half a minute.

[Tr. 275] "Question: Give us an approximation.

"Answer: Half a minute, a minute, fifteen seconds, perhaps. I'm not certain as to the——

"Question: Is the range of time fifteen seconds to one minute the fair——

"Answer: Yes.

"Question: Your best recollection?

"Answer: Yes."

.

"Question: The four-forty-two, four-forty-three Telautograph message having been signed off by the Weather Bureau at forty-three would be received in the Tower Cab at approximately forty-three, is that correct?

"Answer: That's correct.

"Question: And that was before the weather broadcast, in fact, commenced that day?

"Answer: Yes."

.

"Question: You mentioned earlier that when you gave the routing to Mohawk 112 via Victor 34, and the other airways, you mentioned that in that message you told Mohawk 112 to maintain a departure [Tr. 276] heading for Vectors to Victor 34. Do you recall that?

"Answer: Yes.

"Question: Now, what was the—what does that mean, exactly, in lay terminology?

"Answer: It means that when the aircraft takes off he doesn't change his heading after take-off, he just keeps going straight out.

"Question: For what purpose?

"Answer: For the purposes of radar identification.

"Question: And is that the normal procedure for an aircraft taking off from Runway 28, for him to maintain departure heading for Vectors to a particular airway?

"Answer: Yes."

Mr. STEELE: Turning now to Page 2916, Line 1.

"Question: Mr. DiStasio, I'm directing your attention now to Section 431.7 of the Air Traffic Control Procedure Manual, which is Exhibit No. 47, for identification, and Section B of that states, does it not, that the Ground Controller has the right to deny clearance to a departing aircraft if the runway visibility is less than one-quarter [Tr. 277] of a mile, is that correct?

"Answer: Well, the paragraph doesn't state Local Controller, but—

"Question: No?

"Answer: But the basis for denying a take-off clearance on a runway, if the visibility is less than one-quarter of a mile is pointed out here in part B of that Section.

"Question: Of 431.7?

"Answer: Yes.

• • • • •

[Tr. 278] "Question: Well, runway visibility, as referred to in that particular paragraph, means what?

"Answer: Well, it means the visibility on a runway.

"Question: Along a runway?

"Answer: I would say on the runway.

"Question: All right. And it does not necessarily mean prevailing visibility?

"Answer: It does not necessarily mean prevailing visibility.

"Question: Now, if Tower Control was aware of the fact that runway visibility was less than one-quarter of a mile, what would be the Tower Controller's practice under such circumstances?

"Answer: If the Tower Controller is aware that visibility is less than one-quarter of a mile, a denial for take-off clearance would be issued.

"Question: And that would be the Tower Controller's duty under Section 431.7, wouldn't it?

"Answer: That is correct."

[Tr. 279] The COURT: I am trying to understand the answer of the witness who says it would be the responsibility of the Tower Controller.

Mr. SILVERMAN: I think he means the Local [Tr. 280] Controller.

Mr. GALIHER: Wouldn't it be the one under whose supervision the plane was at the particular time when he became aware of the situation?

Mr. SILVERMAN: It is the Local Controller who issues the clearance for take-off, not the Ground Controller.

"Question: Does a Local Controller have any responsibility in so far as warning departing aircraft of a forecast of high winds?

"Answer: Local Controller, a forecast of high winds? We are watching the instruments constantly, and as far as his responsibility to advise an aircraft of forecast of high winds, he's not obligated to.

"Question: I direct you, Mr. DiStasio, to Page 328 of the Civil Aeronautics Board Hearing, and ask you if the following question was not asked of you and the following answer given:

" "Question: Do you have any responsibilities, sir, as far as any sort of warnings to aircraft or vehicles,

traffic on the airport, in the event of a [Tr. 281] forecast of high winds and that type of hazard?"

"And your answer was: 'Yes, we do.'"

"Was that question put to you and did you give that answer?"

"Answer: That question was put to me and I gave that answer. In this case, yes."

"Question: And then you were asked the question:

" 'Question: Did you have any concern with high winds because of your knowledge of the weather on that day?'

"And did you give the answer: 'I considered it briefly, yes.'"

"Were you asked that question and did you give that answer?"

"Answer: I did."

"Question: What?"

"Answer: I did."

"Question: And then were you asked the question:

" 'How important did you consider it?'

"And did you answer that question:

" 'Well, I did nothing about it.'"

[Tr. 282] "Answer: I did."

"Question: Were you aware of any high winds in the area at the time that Flight 112 requested taxi instructions from you?"

"Answer: Well, what do you mean by high winds? If you consider twenty knots high winds, I was aware of it, because that's what the indicator was giving us."

"Question: O. K. Were you aware of any high winds higher than twenty knots?"

"Answer: I was not."

"Question: Mr. DiStasio, do you have any duty as Tower Controller to give aircraft moving on the ground the impending approach of a thunderstorm?"

"Answer: Well, again, what is the 'impending approach of a thunderstorm'?"

"Question: Well, let's say a thunderstorm that's within fifteen minutes of the field."

"Answer: I wouldn't know as a Tower Controller whether it were a thunderstorm or not.

"Question: Well, assuming that you knew a thunderstorm were approaching the field, what would be your duty in so far as advising aircraft moving [Tr. 283] on the ground in Rochester?

"Answer: If I were able to determine that it—there was a thunderstorm on the edge of the Airport, I would somehow have to determine which way it was moving. It would not necessarily have to be touching the ground. Some thunderstorms do not. Some thunderstorms occur in the sky, and do not affect happenings on the ground. I would advise an aircraft, for instance, visibility suddenly lowering. I'm thinking particularly of a light aircraft that does not have the facilities or the—where he goes about and handles everything himself, that he would—going VFR, say, out of the Airport, and I know he's going to Buffalo, and I can see visibility lowering to a point where he wouldn't be able to maintain any visual contact with the ground, I would advise him.

"Question: Well, I believe some of your answer isn't responsive to the question."

Mr. STEELE: The question was read back and the witness testified as follows:

"Answer: My only obligation in this respect would be to relate the current value, if in the case [Tr. 284] of an instrument flight, the values went below minimum take-off ceiling and visibility for the Airport. That is the only obligation.

"Question: Well, I'm talking about aircraft moving on the ground.

"Answer: As far as the duty to aircraft moving on the ground, the obligation is to relate current values."

Mr. STEELE: Turn to 2934, Line 10.

"Question: I show you a copy of the CAB testimony, and refer you to Page 329, and ask you whether the

following question wasn't put to you, and whether you made the following answer:

" 'Question: Do I understand from your statement that you felt no responsibility to the conduct of any air traffic moving on the ground at Rochester within a half hour of the approach of these thunderstorms, to give them any warning of their approach?

" 'Answer: No, I think you misunderstood me. If I may say so, we have a continuing responsibility to aircraft taxiing. That is, the Local and Ground Control. The Ground [Tr. 285] Control, rather. All aircraft actually moving on the Airport is the responsibility of the Ground Controller. This is a continuing responsibility.'

"Now, was that question asked of you and did you give that answer?

"Answer: I did."

Mr. STEELE: Page 2973, Line 13.

"Question: Now, I ask you whether the following question was not put to you at the Civil Aeronautics Board Hearing, and whether you didn't give the following answer:

" 'Question: Now, if you had received this weather report which is in Exhibit 8-I, prior to issuing clearance to taxi to Mohawk 112, would any of your regulations and rules by which you must operate require you to pass this information to the flight?

"And the answer:

" 'I believe it would, yes.'

"Was that question asked of you and was that answer given?

"Answer: Yes.

[Tr. 286] "Question: And now then, was the following question asked of you and the following answer given:

" 'Question: You would be required——

“ ‘Answer: If this is considered the thunderstorm overhead having been considered a phenomena that would adversely affect the flight, the departure.’ ”

“ ‘Was that question asked of you and did you give that answer? ”

“ ‘Answer: I did. ”

“ ‘Question: Mr. DiStasio, when you listened to the tape recording, the tape recording of the Local Control frequency, did you hear any message from Mohawk 112 mentioning the word, ‘thunderstorms’? ”

“ ‘Answer: I did. ”

“ ‘Question: What message did you hear on the tape recording? ”

“ ‘Answer: Mohawk, according to the tape recording, the pilot, or someone in the cockpit of Mohawk 112, requested a left turn out to avoid the thunderstorms west. ”

“ ‘Question: To avoid the thunderstorms west? [Tr. 287] What do you mean by ‘avoid the thunderstorms west’? ”

“ ‘Answer: I presume that was his wording on it. I don’t recall the precise wording. I’m pretty sure that it meant he saw something and wished to avoid it, and requested a left turn out.’ ”

.

“ ‘Question: Now, sir, you have testified that at approximately four-forty-four p.m., Mohawk 112 first called on your Ground Control frequency. You were the Ground Controller at the time and Mohawk 112 requested a clearance to taxi, is that correct? ”

“ ‘Answer: That’s correct. ”

“ ‘Question: And pursuant to that request, you gave him clearance to taxi to Runway 28 but not to enter 28, to hold short of 28, is that correct? ”

“ ‘Answer: That’s correct. ”

“ ‘Question: Now, at the time you gave him the—— ”

“ ‘Strike it. ”

“ ‘At the time he requested taxi clearance—— ”

[Tr. 288] "At the time Mohawk 112 requested the taxi clearance, what choices, under the circumstances then prevailing, were available to you with regard to his request?"

"Answer: With regard to his request, the first choice was to clear him to Runway 28, and give him the appropriate information.

"Question: Why was that the first choice? Namely, the choice to clear him to taxi toward Runway 28?"

"Answer: Well, because I am obligated to offer him the runway most closely aligned with the wind.

* * * * *

[Tr. 289] "Upon issuing Mohawk 112 the clearance to taxi to Runway 28, I believe you said previously that subsequent to issuing that clearance you saw the aircraft start to move from its position at the gate near the Terminal, is that correct?"

"Answer: That's correct."

(Whereupon the following excerpts were read from the deposition of Robert B. Thorp, Mr. Steele reading the questions and Mr. Galiher reading the answers.)

Mr. STEELE: It is:

"Robert B. Thorp, 152 Coldwater Road, Rochester, New York, after being duly called and sworn, testified [Tr. 290] as follows:

"Question: Mr. Thorp, where do you reside?"

"Answer: 152 Coldwater Road.

"Question: And by whom are you employed?"

"Answer: The Federal Aviation Agency.

"Question: In what capacity?"

"Answer: Airways Operations Specialist.

"Question: And were you so employed on July 2nd, 1963?"

"Answer: I certainly was.

"Question: At the Rochester Airport?"

"Answer: Yes.

"Question: And were you in the Tower Control Cab of the Rochester Airport on July 2nd, 1963, at the time of Flight 112's crash?

"Answer: Yes, I was.

"Question: And in what capacity?

"Answer: The Local Controller.

• • • • •

[Tr. 291] "Answer: I believe I signed on downstairs in the radar room about quarter of four, and I would guess that I got up in the Tower Cab about ten minutes of four.

"Question: And when did you assume your duties as Local Controller that day?

"Answer: That would be at four p.m.

"Question: Now, can you tell me briefly what the duties of the Local Controller are?

"Answer: Well, the duties of a local controller are to promote the safe, orderly and expeditious patrol of air traffic in and around the Airport. That is, for aircraft that are arriving and departing, and also to some extent aircraft on the ground.

• • • • •

"Question: Now, Mr. DiStasio, the witness who has just testified here, was acting as Ground [Tr. 292] Controller, is that correct?

"Answer: That is correct.

"Question: And as I understand his testimony, his duty was to give Flight 112 taxi instructions, is that right?

"Answer: That is right.

"Question: And that means offering him a choice of runways or taxi runways?

"Answer: Yes.

"Question: And in this case, he instructed him in so far as the use of Runway 28—of a taxiway to Runway 28, is concerned?

"Answer: That is correct.

"Question: And he testified he gave the pilot the wind direction, velocity, and other information, is that correct?

"Answer: That is correct.

"Question: And then he is in contact, that is, the Ground Controller, and DiStasio on this day, is in contact with the pilot of 112 on a given frequency, is that right?

"Answer: That's right.

"Question: On the radio?

[Tr. 293] "Answer: Yes, sir.

"Question: And then there is a point at which the pilot changes frequency to tune in on the channel that you are on?

"Answer: That's correct.

"Question: At local control?

"Answer: That's correct.

"Question: And when does that happen, or when did that happen on this particular day?

"Answer: He would give the pilot the clearance on Ground Control, and would advise the pilot when he was ready to take off to contact Local Control on my frequency, or the frequency of the Local Controller.

"Question: And then when the pilot of an aircraft changes his radio frequency to that of the Local Controller's, what is the Local Controller's duty from that time on?

"Answer: The pilot, upon coming upon my frequency, would request take-off clearance.

"Question: And what would you instruct him as to——

"Answer: I would clear him for take-off [Tr. 294] upon coordination from Departure Control.

"Question: And what information would you eventually give the pilot of such an aircraft?

"Answer: Well, I would naturally call downstairs to get the release, first of all, from Departure Control, and then I would clear the aircraft for take-off.

"Question: When you say, 'clear the aircraft for take-off,' what information would you give him?

"Answer: Well, if there—

"Question: Generally.

"Answer: Generally, if there was no—if there was known traffic in the route of flight of this departure—departing aircraft, or in the vicinity of the airport, I would give that traffic to the pilot prior to departure.

"Question: What else would you give him?

"Answer: Well, I would give him anything that I thought was necessary for a safe take-off.

"Question: And do you tell him when to take off?

"Answer: I clear him for take-off, I don't tell him when to take off.

[Tr. 295] "Question: By clearing him for take-off, what do you mean? What do you tell him?

"Answer: I am telling him in so far as the runway is concerned, it is free of obstructions, other aircraft, anything that would be a hindrance to that take-off.

"Question: And do you instruct him that he may take off?

"Answer: I do not instruct him; I clear him for take-off.

"Question: What do you mean by clearing him? What do you say to him?

"Answer: I use that exact word, as a matter of fact. Cleared for take-off.

"Question: And when you say to the pilot of the aircraft that he's cleared for take-off, what does that mean to him?

"Answer: That means that he is cleared to go when he is ready.

"Question: And when you clear him for take-off, have you any further responsibilities in so far as the aircraft is concerned?

"Answer: Other than the traffic that I might [Tr. 296] give him, no.

"Question: And does there come a time when the

pilot changes to another radio frequency other than the one the Local Controller is on?

"Answer: Yes. In this particular case, and in the case of any instrument IFR aircraft departing, that aircraft would be changed to Departure Control upon crossing the far end of the runway.

"Question: And Departure Control is on a completely different frequency from Ground Control or Local Control?

"Answer: Yes.

"Question: And this change-over, in so far as radio frequency is concerned, takes place when the plane is taking off, the aircraft is taking off?

"Answer: Not when he's in the process of taking off.

"Question: Well, when?

"Answer: Within a half a mile of the departure end of the runway.

"Question: Now, before coming on duty that day, did you look at any radar in the IFR room?

[Tr. 297] "Answer: When I signed on, just after signing on in the radar room, at approximately a quarter of four, and before leaving the radar room for the Tower, I glanced over at the scope, at the radar-scope in the radar room.

"Question: And what did you notice at that time?

"Answer: As I indicated on the—in the CAB testimony, the scope, I believe, was in circular polarization, which I believe we have gone over before in previous testimony, but I did notice there was some activity on the scope in the form of an echo.

"Question: Well, was the radarscope, at the time you observed it, in the IFR room, receiving echoes of thunderstorm activity?

"Answer: It might have been receiving echoes. I don't know what they were of.

"Question: Well now, again referring to your testimony, or, initially, for the first time that I have done it with you, referring to your testimony of the Civil

Aeronautics Board, Page 381, were you asked this question and did you give this answer:

[Tr. 298] "Question: Were they receiving—was the scope receiving echoes of thunderstorm activity?"

"And your answer was:

" 'I believe so.' "

"Answer: Yes.

"Question: At the time that you observed this echo on the radarscope, did you know how far away it was?

"Answer: No, I didn't.

"Question: Did you know the direction of the echo with respect to the airport?

"Answer: It was west north west.

"Question: And did you make any notation, or watch the scope long enough to determine in what direction it was moving?

"Answer: No, I didn't.

"Question: Or to determine the speed with which it was moving?

"Answer: No, I didn't.

"Question: And prior to coming on duty, or assuming your duty as Local Controller, did you familiarize yourself with the weather conditions?

[Tr. 299] "Answer: Yes, I did.

"Question: And what did you do to familiarize yourself with such weather conditions?

"Answer: I read the weather that is attached to the clipboard near the en route position.

"Question: Yes. Anything else?

"Answer: The severe weather warning which was given to me, the nature of it, by the man that I relieved.

"Question: You were advised by the Local Controller who relieved you?

"Answer: That I relieved.

"Question: I beg your pardon. That you relieved?

"Answer: That's right.

"Question: You were advised by that individual of the severe weather forecast?

"Answer: That is right.

"Question: And did he advise you generally of other weather conditions?

"Answer: No.

"Question: And did you do anything else other than what you have mentioned with respect to [Tr. 300] familiarizing yourself with the weather conditions and forecast?

"Answer: No.

"Question: Now, your position as Local Controller is in the FAA Tower, is that right?

"Answer: That is correct.

"Question: That's on the top floor?

"Answer: Yes.

"Question: And is it glass-enclosed, as Mr. DiStasio described?

"Answer: Yes.

"Question: And have you a position—has the Local Controller a position in the Tower?

"Answer: I don't understand the question.

"Question: A particular position in the Tower. Does the Local Controller normally sit in one place in the Tower?

"Answer: Yes.

"Question: And where is that?

"Answer: On the east side.

"Question: On the extreme east side?

"Answer: Yes.

"Question: And were you sitting in that [Tr. 301] position at the time that Flight 112 requested taxi instructions?

"Answer: I was either sitting or standing. We have a chair there, and I'm not sure right now whether I was standing or sitting at that particular moment."

Mr. STEELE: Going to Line 8 on Page 2980.

"Question: In which position does the Local Controller's chair in the Tower Cab face?

"Answer: North.

"Question: And who sits immediately on the left of the Local Controller?

"Answer: The Ground Controller.

"Question: And that was Mr. DiStasio?

"Answer: That's right.

"Question: And was he seated there at or around four-forty-four that afternoon?

"Answer: Yes, he was.

"Question: And who sits to the left of the Ground Controller?

"Answer: The Flight Service Specialist.

"Question: And does anybody sit to the left or to the west of him?

[Tr. 302] "Answer: No.

"Question: And all three of these Traffic Controllers that you have mentioned sit facing north, looking north out of the Tower Cab?

"Answer: That is correct."

• • • • •

"Question: And were you aware of any thunderstorm activity at or near the field at the time you gave Flight 112 clearance?

"Answer: I believe just prior to Mohawk 112's departure, I did observe lightning northwest."

• • • • •

"Question: Prior to clearing Mohawk for take-off, and at any time prior to clearing Mohawk 112 for take-off, did you observe any—were you advised by radar of any thunderstorm activity in the area?

"Answer: No.

"Question: Did you receive any information concerning any thunderstorms prior to clearing Mohawk 112 for take-off from radar?

"Answer: No."

• • • • •

[Tr. 303] "Did you observe some lightning to the northwest just prior to Mohawk 112's take-off?"

"Answer: Yes.

"Question: Now, did you watch Flight 112 commence its take-off?"

"Answer: Yes, I did.

"Question: And did you follow it as it took off?"

"Answer: I followed the flight until it entered that area of precipitation.

"Question: Now, where did it enter an area of precipitation, approximately where with respect to Runway 28?"

"Answer: Approximately fifteen hundred feet down the runway.

"Question: And did it disappear completely from view, from your view?"

[Tr. 304] "Answer: From my view, it did disappear, that's correct."

* * * * *

[Tr. 306] "Question: Do you know, Mr. Thorp, of any occasion when weather which was received in the Tower was not brought to your attention or made available to you by a clipboard or otherwise?"

"And you answered:

"No, I don't. Any weather concerning visibility would be—should be brought to my attention, normally, by the en-route controller, if I don't see it myself."

"Were you asked that question and did you give that answer?"

"Answer: Yes.

"Question: Then you were asked:

[Tr. 307] "Question: What weather should be brought to your attention?"

"And you answered:

"Weather that could adversely affect the flight."

"Is that correct?"

"Answer: Yes.

"Question: And you did give—you were asked those questions and you did give those answers?"

"Answer: Yes.

"Question: Now, this Telautograph message of forty-three was a Special Weather Report, was it not?"

"Answer: Yes, it was.

"Question: And as a matter of practice, should that weather report have been brought to your attention?"

"Answer: It probably would have been brought to my attention after the Flight Service Specialist was through with it.

"Question: Well, should it have been brought to your attention?"

"Answer: Yes.

[Tr. 308] "Question: And what is the purpose of bringing such weather information to the Local Controller?"

"Answer: Well, it would be brought to his attention from the Flight Service man in the event that the Local Controller was not aware of the weather that was being brought over to him."

* * * * *

"Question: In the event the Local Controller has a weather report or weather information which in his judgment would adversely affect a flight, it would be his practice to advise the pilot of the contents or substance of such weather information?"

"Answer: If the Local Controller that was—it would be up to the judgment of the Local Controller. It would not be mandatory.

"Question: But if in the judgment of the Local Controller such weather information would adversely affect a flight, then it would be the Local Controller's practice to advise the pilot accordingly, is that correct?"

"Answer: If it would adversely affect the flight, yes.

[Tr. 309] "Question: And I take it that this was your practice as Local Controller also?"

"Answer: Yes.

"Question: Now, on July 2nd, 1963, in clearing Mohawk 112 for take-off, what weather information did you give him?

"Answer: I gave him the wind direction and the wind velocity.

"Question: Anything else?

"Answer: Just prior to take-off.

"Question: Anything else?

"Answer: No.

"Question: And what wind direction did you give him?

"Answer: Three four zero.

"Question: And the wind velocity?

"Answer: One five.

"Question: And at any other time did you give him any other information other than that?

"Answer: No, I didn't.

"Question: At the time of Flight 112's take-off, were you working any other aircraft as Local Controller?

[Tr. 310] "Answer: No, I wasn't.

"Question: And was the—what is the last aircraft that you did work prior to Flight 112's take-off?

"Answer: It was American 453.

"Question: And how long before Flight 112's take-off did you clear American 453, approximately?

"Answer: Approximately four minutes.

"Question: There is a buzzer on the Telautograph in the Tower Cab?

"Answer: Yes, there is.

"Question: Did you hear it buzz that day?

"Answer: No, I didn't.

"Question: You state that you did familiarize yourself with the weather conditions and forecasts prior to assuming your position as Local Controller on July 2nd, 1963, correct?

"Answer: Yes.

"Question: And there's a definite reason for your doing this, isn't there?

"Answer: Yes.

"Question: And what is the purpose?

"Answer: To be aware of the anticipated weather [Tr. 311] or forecast weather for our area, the Rochester area.

"Question: And why do you have need of such information? Why does the Local Controller have need of such information?

"Answer: Well, the Local Controller would use that information to relay to pilots, if necessary.

"Question: All right. Could you, as Local Controller, on July 2nd, 1963, have gotten information concerning the weather directly from the IFR room?

"Answer: Could I have?

"Question: Yes.

"Answer: You mean with respect to what they were seeing on radar?

"Question: That's right.

"Answer: I could have by calling down, yes.

"Question: Did you?

"Answer: No, I didn't."

The COURT: Is there any question, gentlemen, but that the buzzer worked or was it established whether the buzzer worked or didn't work?

[Tr. 312] Mr. MURRAY: I don't think it has been established there is no evidence that the buzzer was not in proper operating condition that day.

* * * * *

Mr. GALIHER: As I understand, Mr. Murray is prepared to stipulate that it was.

Mr. MURRAY: I am prepared to stipulate that it was. I don't believe there is anything in the record that an analysis was made of it to ascertain it was in working condition. But I feel confident enough that it was to stipulate.

* * * * *

[Tr. 313] The COURT: You gentlemen will stipulate that the buzzer worked?

Mr. GALIHER: Yes, sir.

The COURT: All right.

* * * * *

"Question: Now, sir, in listening to the Local Control frequency tape recording, did you time the interval between the first message from Mohawk 112 and the last message by you to Mohawk 112? That is, with regard to the interval of time between the two?

"Answer: Yes.

"Question: What was the interval of time?

"Answer: Fifty-five seconds.

* * * * *

"Withdraw the question.

"What was the first message that you heard on July 2nd, 1963 from Mohawk 112 on the Local Control frequency?

"Answer: In the exact words, I couldn't [Tr. 314] phrase it in exact words. If I could see the paper, I could, but I can't remember exactly what he said."

* * * * *

"Request take-off clearance."

* * * * *

"Was the last message with regard to 112 on July 2nd, 1963 a message from him or a message by you to him?

"Answer: The very last message was my acknowledgment.

"Question: What did you say?

"Answer: 'All right.'

* * * * *

[Tr. 315] "Question: In terms of time, how many seconds [Tr. 316] passed between the time you said,

'All right,' and the time Mohawk 112 first entered an area of precipitation?

"Answer: That would be an approximate—you are speaking in terms of seconds now?

"Question: Yes. What is your best approximation as to the time interval?

"Answer: I would say between ten and fifteen seconds.

• • • • •

[Tr. 317] "Did you hear him give an off time for Mohawk 112?

"Answer: Yes, I believe he said, 'forty-nine.'

"Question: Meaning 4:49 p.m.?

"Answer: Yes, sir.

"Question: And in giving times to the Cleveland Center, you are required to use the clock to be accurate?

"Answer: Yes.

"Question: Now, the time of four minutes

"Strike it.

"Now, the time of forty-nine minutes past four p.m. for Mohawk 112, the latest time that could be is forty-nine minutes and twenty-nine seconds past four p.m., is that correct?

"Answer: That is correct."

• • • • •

[Tr. 318] "Question: All right. So then is it fair to state, sir, that the time Mohawk 112 entered the area of precipitation as you observed it, on the basis of these calculations, was no earlier than four-forty-nine p.m. and no seconds?

"Answer: That is correct.

"Question: And no later than four-fifty p.m.?

"Answer: That is correct."

• • • • •

"Question: What was the time interval between the time when you saw him come to a complete stop and the time he first came on your frequency? Approximately?

"Answer: Well, I'd say approximately twenty to thirty seconds.

"Question: Now, sir, what he called on your frequency, you say he requested a take-off clearance?

"Answer: Yes.

"Question: What did you then do?

"Answer: I called downstairs to Departure [Tr. 319] Control to coordinate for the departure release.

"Question: You spoke to Mr. Sufrin?

"Answer: Yes.

"Question: What did you say to him?

"Answer: 'Release Mohawk 112, Runway 28.'

"Question: What was the next thing that happened?

"Answer: He gave me a release for Mohawk 112.

"Question: What did you then do—that is, Mr. Sufrin gave you the release?

"Answer: Yes.

"Question: What did you then do?

"Answer: I then cleared Mohawk 112 for take-off.

"Question: On Runway 28?

"Answer: That's right.

"Question: Was that clearance acknowledged?

"Answer: Not the first one.

"Question: What was the next message you heard after you cleared Mohawk 112 for take-off from Runway 28?

"Answer: I believe I re-cleared him for take-off again. And then he came back and asked [Tr. 320] for a left turn out to avoid thunderstorms that he indicated were west of the Airport."

Mr. STEELE: Turn to Page 3035, Line 12.

"What were the exact, precise words used by Mohawk 112 immediately after you cleared him for take-off from Runway 28?

"Answer: 'Yeah, 'kay, we'd like to make a left turn out as soon as practicable to avoid those thunderstorms coming in from the west.'

"Question: And you heard that message that day?

"Answer: Yes, I did.

• • • • •

"Question: "You gave him the initial clearance, 'Mohawk 112 cleared for take-off, Runway 28,' is that right?

"Answer: That's right.

"Question: The next message you got from Mohawk 112 was this, 'Yeah, 'kay, we'd like to [Tr. 321] make a left turn out as soon as practicable to avoid those thunderstorms coming in from the west,' is that right?

"Answer: Yes.

"Question: Was the next message you received from Mohawk 112 after you initially cleared him for take-off a request for a different clearance, or an acceptance of the initial clearance?

"Answer: That was a request for a different clearance.

• • • • •

[Tr. 322] "And was the request by Mohawk 112 for a different take-off clearance perfectly permissible under the circumstances? That is, to request a left turn rather than to fly straight out?

"Answer: Yes, it was.

• • • • •

"Question: Did you at any time see any [Tr. 323] lightning?

"Answer: I did not at that time see lightning.

"Question: Did you see any lightning before that time?

"Answer: Yes.

"Question: Did you see any lightning before your

initial take-off clearance, or at the time of your initial take-off clearance?

"Answer: Yes.

"Question: Which was it, at or before?

"Answer: Prior.

"Question: How long prior?

"Answer: To the best of my recollection, a minute, or possibly two minutes. About a minute before take-off.

"Question: A minute before initial take-off clearance?

"Answer: Yes.

* * * * *

[Tr. 324] "Question: Now, when you heard the request by Mohawk Airlines 112 for a different take-off clearance, what did you the next do?

"Answer: I immediately called down to the Departure Controller to indicate to him that the pilot of Mohawk 112 wished to deviate from the original clearance that he had.

"Question: What did you say to Mr. Sufrin?

"Answer: I said to Mr. Sufrin, 'Mohawk 112 would like to make a left turn out—would like to make a left turn to a one eight zero heading. Is that all right?'

"Question: A left turn to a one eight zero heading? One eight zero on the compass is due south?

"Answer: South.

"Question: And taking off from Runway 28, he would be heading approximately west?

"Answer: Yes.

[Tr. 325] "Question: Now, did Mr. Sufrin thereafter come back to you with a message?

"Answer: Yes, he did.

"Question: What did he say to you?

"Answer: He said, 'Give him a left turn on course.'

"Question: What does that mean in lay terminology, so we can understand it?

"Answer: To me, and to Air Traffic Controllers, it means that he would make a normal left turn out without proceeding on the original clearance, which was, 'maintain runway heading.' He would turn left to intercept Victor 34, the first airway which he was cleared on from Rochester.

.

[Tr. 326] "Question: Now, when you heard Mr. Sufrin give you this release for the revised take-off clearance, what did you then next do?

"Answer: I said to the captain of Mohawk 112, 'Delete runway heading, turn left, climb on course.'

[Tr. 327] "Question: And did you say anything else in that message?

"Answer: I'm not sure whether in this particular message I gave him the wind—yes, I did.

"Question: Now, when Mr. Sufrin gave you the release for the revised take-off clearance, did you immediately tell Mohawk 112 that?

"Answer: Yes, I did.

"Question: Do you remember the precise words you used?

"Answer: 'Mohawk 112 delete your runway heading, make a left turn on course.'

"Question: Was there another message before that?

"Answer: You mean from me or from—

"Question: From you to the aircraft.

"Answer: Yes, there was a message from me prior to that one.

"Question: All right. What was that message?

"Withdraw that.

"Was the sequence that Mr. Sufrin gave you the release for the revised take-off clearance, and then you immediately issued it to Mohawk 112?

[Tr. 328] "Answer: Yes.

"Question: And what were the words that you used in immediately issuing it to Mohawk 112, that is, the revised take-off clearance?

"Answer: 'Okay, you can make a left turn on course, Mohawk 112.'

"Question: Was that message acknowledged by Mohawk 112?

"Answer: No, it wasn't.

"Question: Did you then repeat the revised take-off clearance?

"Answer: Yes, I did.

"Question: What did you say?

"Answer: I said, 'Mohawk 112, delete your runway heading, make a left turn on course. The wind at the moment is three four zero, velocity one five.'

"Question: What did Mohawk 112 say?

"Answer: 'Okay, we'll make a left turn out, ah, right away.'

[Tr.329] "Question: And what did you say?

"Answer: I said, 'All right.'

[Tr. 330] Mr. STEELE: We are resuming with Mr. Thorp at Page 3059, Line 8.

"Question: You testified in direct examination that you did not see the four-forty-two, four-forty-three Telautograph message before the accident, is that correct?

"Answer: That is correct.

"Question: Now, Mr. Howell was the Flight Service Specialist on duty next to the Telautograph machine, correct?

"Answer: Yes.

"Question: Were weather documents received in the Tower posted at some particular position?

"Answer: The current local weather is right in front of the Local Controller, but it's brought over to him, normally, by the—or handed to him by [Tr. 331] the Flight Service Specialist, or the Ground Controller in the middle.

"Question: Now, sir, one of the duties of the Flight Service Specialist was, of course, to initiate and complete the four-forty-five weather broadcasts?

"Answer: Yes.

Mr. STEELE: We go to 3071, Line 19.

"Question: Now, the four-forty-two, four-forty-three Telautograph message mentions thunderstorms, is that correct?

"Answer: Yes.

"Question: And the pilot of Mohawk 112 advised you that there were thunderstorms, is that correct?

"Answer: Yes, he did."

Mr. STEELE: We turn to 3082 at Line 13.

"Question: So that in order to understand what the safe, orderly, expeditious flow of traffic means, you have to be familiar with the specific duties and obligations as outlined in the manual, is that correct?

"Answer: That is correct.

[Tr. 332] "Question: Now, does that term, safe, orderly, expeditious flow of traffic, mean that when you issue an aircraft a take-off clearance, and the official prevailing visibility is above a quarter of a mile, that you warrant to the pilot of the aircraft that it's safe to take off, putting conflicting traffic aside?

"Answer: Yes."

Mr. STEELE: Turn to Page 3086, Line 21.

"Question: Now, sir, you have testified earlier that you observed the disappearance from view of Mohawk Airlines while it was——

"Strike it.

"Mohawk 112, while it was going down Runway 28, is that correct?

"Answer: That is correct.

"Question: And I believe your testimony was that it completely disappeared from view at a point when

it was approximately fifteen hundred feet down Runway 28?

"Answer: That is correct.

"Question: And that approximate fifteen hundred feet, is that measured from the extreme [Tr. 333] easterly end of the pavement?

"Answer: Yes.

Mr. STEELE: Turn to Page 3089, Line 8.

"Question: Mr. Thorp, how far away from your position in the Tower Cab was the aircraft when it disappeared from your sight into this area of precipitation?

"Answer: Approximately five-eighths of a mile.

"Question: This area of precipitation, I gather, from your previous testimony, was moving across the field?

"Answer: Yes, it was.

"Question: From west to east?

"Answer: It seemed to be moving, to me, from the west—from the north northwest across the field.

"Question: Across the field from the north northwest from your position?

"Answer: Across the field from my position in the Tower."

Mr. STEELE: Page 3111, Line 20.

"Question: Now, at the moment you saw [Tr. 334] Mohawk 112 airborne for the first time, was he clearly visible to you?

"Answer: I couldn't say, because he disappeared into this area of precipitation. He may have been airborne at that time, I don't know."

Mr. STEELE: Page 3113, Line 13.

"Question: Now, when you first saw Mohawk 112 air-borne, what was its attitude?

"Answer: I didn't see—I didn't see Mohawk when he was in the wing-down attitude that was reported

by DiStasio, and at that time was when he told me to hit the siren."

* * * * *

"Question: Now, with respect to thunderstorms, you were questioned about that, were you not, at the Civil Aeronautics Board Hearing?

"Answer: Yes.

"Question: In August of 1963?

"Answer: Yes.

"Question: And at that time, were you asked this question and did you give this answer:

"Page 401.

[Tr. 335] "Question: And at the time that you did give the clearance for take-off, you had no knowledge of the weather report of that weather, is that correct, from the Weather Bureau or the FAA report of any type?

"Answer: —"

"You were referring to the special weather that came out?

"Answer: Yes.

"Question: And the weather report referred to in that question which was just read to you was the Tel-autograph message of four-forty-three, wasn't it?

"Answer: Yes.

"Question: And the clearance for take-off that's referred to in the question is Flight 112's take-off?

"Is that right?

"Answer: Where is that, sir? Yes.

"Question: All right. And then immediately following the question just read to you, were you asked the following question at the CAB [Tr. 336] hearing, and did you give the following answer:

"Question: Did you not have it at that time?

"Answer: That is correct, sir."

"Answer: Yes.

"Question: And then were you asked the following question and did you give the following answer:

'Question: You had no knowledge of the thunder-storm activity on or nearby the field?

'Answer: That is right.'

"Answer: That's correct."

Mr. STEELE: Page 3150, Line 10.

"Question: But you do know, and it is your job to advise the pilot of any adverse weather which you are aware—which in your opinion might adversely affect his departure, aren't you?

"Answer: If in my judgment I thought he did not know it, I would tell him.

"Question: You don't deny that you testified at the Civil Aeronautics Board hearing on August 21st, 1963, that——

[Tr. 337] "Page?

"Question: 412.

"In substance, that weather should be brought to your attention as Local Controller which might adversely affect a flight under your control?

"Didn't you testify to that, in substance?

"Answer: Yes.

• • • • •

"Question: Were you aware that there were Transmissometer devices located at the Rochester Airport and on the field prior to July 2nd, 1963?

"Answer: I was probably aware they were there, but I knew we couldn't use them officially."

[Tr. 338] "Question: And did you report Flight 112's take-off time?

"Answer: I didn't record that. I was just about to as—I was in the process of getting ready to pull the departure button over to give the departure time when Mr. DiStasio said, 'Hit the siren.'

"Question: What time were you going to give?

"Answer: I was going to give, 'Forty-nine.'

"Question: Four-forty-nine?

"Answer: Yes."

Mr. STEELE: Page 3175, Line 20.

"Question: Were you at any time a weather observer?"

"Answer: No, I was not.

"Question: But you were, at the time, qualified to take visibility observations from the Tower, is that correct?"

"Answer: That's correct."

* * * *

[Tr. 340] (Whereupon the following excerpts were read from the Deposition of Charles Leon Sufrin, Mr. Steele reading the questions and Mr. Galiher reading the answers.)

Mr. STEELE: This is the examination of Charles Leon Sufrin.

"Question: Mr. Sufrin, where do you live?"

[Tr. 341] "Answer: 69 Creekside Drive, Rochester, New York.

"Question: And by whom are you employed?"

"Answer: Federal Aviation Agency.

"Question: And in what capacity?"

"Answer: Air Traffic Control Specialist.

"Question: And were you so employed on July 2nd, 1963?"

"Answer: I was.

"Question: And how long had you been working as an Air Traffic Control Specialist as of July 2nd, 1963?"

"Answer: At that point, I had been a Traffic Controller for ten years."

* * * *

"Question: What position were you assigned to?"

"Answer: I was assigned to the Departure Control Division in the IFR Room.

"Question: And where is that?"

[Tr. 342] "Answer: It's in the same building as the Control Tower Cab, two stories below it.

"Question: And generally, as Radar Departure Control, Controller, what are your duties?

"Answer: Primarily my duties are to separate known IFR traffic within the confines of the Rochester Control Area."

* * * * *

Mr. STEELE: And may we stipulate that we are talking about July 2, 1963 in this testimony?

Mr. MURRAY: Yes, correct.

"Question: When did you come on duty?

"Answer: Sixteen hundred hours.

"Question: Was that four p.m. local time?

"Answer: Four p.m.

* * * * *

"Question: You assumed your position in the IFR Room at approximately four p.m.?

"Answer: Yes.

"Question: Did you look on the scope at that time?

[Tr. 343] "Answer: I did.

"Question: What did you do?

"Answer: Well, we set on a thirty mile range, and I observed a large, intense echo west northwest of the field, and there were several targets——

"Question: In terms of weather echoes, I'm referring.

"Answer: Well, I described the weather echo, if you want to call it a weather echo.

"Question: Well, a weather phenomena echo, all right?

"Answer: All right.

"Question: Now, I show you this document and ask you if you recognize it?

"Answer: I do.

"Question: What is it?

"Answer: It's a drawing that I rendered for a Mr. Rudich.

"Question: Who is he?

"Answer: He was the investigator for the CAB—Civil Aeronautics Board—and I was asked to do this approximately two or three days after the accident.

[Tr. 344] "Question: By him?

"Answer: By him.

"Question: And did you prepare that exhibit?

"Answer: I did.

"Question: You signed it?

"Answer: I did.

"Question: Now, sir, does that exhibit fairly depict what you saw at approximately four p.m. on your radarscope in the IFR Room?

"Answer: Yes, to my recollection, it does."

.

[Tr. 345] (Whereupon the Sufrin 4:00 p.m. radarscope drawing was marked Plaintiff's Exhibit No. 24, for identification.)

Mr. STEELE: I would like to have marked as the next Plaintiff's exhibit for identification the radarscope drawing as prepared by Mr. Sufrin and mentioned in his deposition which was made at 4:48 on that day.

Mr. MURRAY: No objection.

The CLERK: Plaintiff's Exhibit 25 marked for identification.

(Whereupon the Sufrin 4:48 p.m. radarscope drawing was marked Plaintiff's Exhibit No. 25, for identification.)

Mr. STEELE: I would like to move 24 and 25 into evidence as stipulated.

The COURT: Without objection, they will be received.

(Whereupon Plaintiff's Exhibits Nos. 24 and 25 were received in evidence.)

Mr. STEELE: The question I am about to ask, Your Honor, refers to Plaintiff's Exhibit 25, the 4:48 drawing.

"Question: Now, does this document accurately depict—

"Strike it.

"This bears your signature?

[Tr. 346] "Answer: Yes.

"Question: And it relates to the time twenty-forty-eight GMT?

"Answer: Yes."

Mr. STEELE: "GMT" means Greenwich Median Time. I am jumping ahead. I will ask the next question.

Question: Twenty-forty-eight GMT is the same as four-forty-eight P.M., Eastern Daylight Savings Time?"

"Answer: That's correct."

Mr. MURRAY: What page are you on, please?

Mr. GALIHER: Page 3194.

"Question: Now, I notice that this has three circles, each marked 'Ten,' 'Twenty' and 'Thirty,' miles, respectively, is that correct?

"Answer: That's correct.

"Question: Are those nautical or statute miles?

"Answer: Nautical.

"Question: Now, what is the center point of the three circles?

"Answer: I might add, I did not draw the runways. That was added later, I believe by Mr. Rudich. At least that's what he told me. [Tr. 347] This is the only portion of those drawings I didn't make.

"Question: That is, the runway lines?

"Answer: That's correct.

"Question: There are three runway lines?

"Answer: That's correct.

"Question: Does the document accurately depict the runway lines?

"Answer: Approximately. I wouldn't say, accurately.

"Question: Are they fair—are they a fair depiction of the runway lines?

"Answer: Fair.

"Question: There's a center point that appears on this exhibit as a black dot?

"Answer: That's right.

"Question: What is that center point?

"Answer: That center point is our radar antenna site.

"Question: Radar antenna——

"Answer: Site.

"Question: —site? Where was that located on the Airport?

[Tr. 348] "Answer: It's located approximately one hundred yards south of the east-west runway.

"Question: Runway 1028?

"Answer: 1028. And approximately fifty to seventy-five yards east of the—of Taxiway 6, as it was called then. It's Taxiway Fox F, it's referred to now.

"Question: Taxiway 6 at that time was the——

"Strike it.

"Taxiway 6 at that time, is that the center taxiway leading toward the Terminal from Runway 1028?

"Answer: No, it's the taxiway leading south from 1028, toward the south ramp or toward the Tower.

.

[Tr. 349] "Question: Did you receive a request for a release for Mohawk 112 from Mr. Thorp?

"Answer: I received a request for release on Mohawk 112 from the Local Control Position, and I believed it to be Mr. Thorp.

"Question: At approximately what time did you receive that request?

"Answer: At approximately—well, this is to the best of my recollection, it was approximately twenty-fourty-eight, or forty-seven. Possibly forty-seven. I assume you are speaking of the original request for the release of the aircraft?

"Question: Yes, sir. Did you sign a statement for the Civil Aeronautics Board?

"Answer: I did.

• • • • •

[Tr. 350] "Question: Your recollection having been refreshed, will you tell us the approximate time you received the initial release for Mohawk 112 from Mr. Thorp?

"Answer: At approximately forty-eight past the hour.

"Question: Four-forty-eight p.m.?

"Answer: Four-forty-eight.

"Question: Did you issue such a release to Mr. Thorp for that aircraft?

"Answer: The original—I did indirectly."

• • • • •

[Tr. 352] "Question: And in substance, 352.1 states that:

" 'Whenever storm areas such as apparent thunderstorms, rain showers or squall lines can be discerned on the radar display, information concerning them shall be provided to pilots when considered advisable by the Controller.'

"Is that right?

"Isn't that what it says?

"Answer: That's correct.

"Question: And it also states, that same Section:

" 'When workload permits, the Controller should volunteer vectoring service to assist the pilot to avoid such areas, or provide such service when requested by the pilot.'

"Is that correct?

[Tr. 353] "Answer: That's correct."

• • • • •

[Tr. 354] (Whereupon the following excerpts were read from the Deposition of Mary Ann Miara, Mr. Steele reading the questions and Mr. Galiher reading the answers.)

"Question: Would you state your full name for the record?

"Answer: Mary Ann Miara.

"Question: Where do you presently reside?

"Answer: 27 William Street, Sayreville, New Jersey.

"Question: By whom are you employed presently?

"Answer: Mohawk Airlines.

"Question: On July 2, 1963, by whom were you employed?

"Answer: Mohawk Airlines.

[Tr. 355] "Question: Were you the stewardess aboard Mohawk Flight 112 which departed Rochester that day?

"Answer: Yes, I was."

[Tr. 356] "Answer: Well, when I was walking towards the airplane to board my airplane, it was a bit windy out, and then, later on, I mean, as we were taxiing out, it was raining. So then I thought, well, it might be a little bumpy.

"Question: At approximately what time did you walk from the Terminal Building to the aircraft?

"Answer: 4:30.

"Question: Did you walk from the Terminal Building to the aircraft?

"Answer: Yes.

"Question: At approximately what time?

"Answer: 4:30.

"Question: Did you at that time, on the basis of what you saw and felt, conclude in your own mind that you would encounter a weather condition which might cause general passenger discomfort?

"Answer: Yes."

[Tr. 357] "Question: At the time you closed the staircase, what did you hear, if anything?"

"Answer: Before I closed the door.

"Question: How long before?"

"Answer: I guess about two minutes before I closed the door.

"Question: What did you hear?"

"Answer: I thought I heard some thunder.

"Question: Did you hear thunder, to the best of your recollection?"

"Answer: Yes.

"Question: Did you hear one clap of thunder or more than one clap of thunder?"

"Answer: I don't know for sure.

"Question: Was the thunder loud?"

"Answer: Yes.

* * * * *

[Tr. 358] "Question: Did you notice anything about the wind during the last two minutes preceding the lifting of the staircase leading to the well of the aircraft?"

"Answer: No."

Mr. STEELE: Page 738, near the bottom.

"Question: Did you see any drops on the ground?"

"Answer: No.

"Question: Any signs of rain?"

"Answer: No."

* * * * *

[Tr. 359] "Question: You say you saw the pilot seated?"

"Answer: Yes.

"Question: Where was John Neff seated?"

"Answer: Left-hand side.

"Question: Where was Richard Dennis seated?"

"Answer: Right-hand side.

* * * * *

"Question: Were you aware of the aircraft coming into a take-off position at some time during that day at Rochester?"

"Answer: Yes.

"Question: And before it reached the take-off position, did you make this observation you have described concerning the windshield wipers and the heavy rain?"

• • • • •

[Tr. 360] "Yes."

Mr. STEELE: If Your Honor please, we have a stipulation which is in the record with the Government in connection with the testimony of a passenger whose name is listed in the CAB hearings as Stephen Rissell, R-i-s-s-e-l-l.

The stipulation is that his entire testimony may be entered into the record, each side entering what they want.

At this point, I would like to enter the very short portion of the CAB testimony that we wish to offer. It is found at Page 520 of the stipulated CAB testimony.

[Tr. 361] The question is:

Pardon me. As a background of this, to make sure we have it for clarity, this man was a passenger on the plane who could see into the cabin or the cockpit.

• • • • •

"Pardon me. This is the man in the right seat?"

Answer of Mr. Rissell:

"Yes, sir. I don't remember whether he was speaking or whether he was listening but then I saw him nod his head (indicating), and we started down the runway."

The purport of that testimony being, in our opinion, that the man in the right seat nodded his head and then "we started down the runway."

• • • • •

[Tr. 362] (Whereupon the following excerpts were read

from the Deposition of Robert G. Harrar, Mr. Steele reading the questions and Mr. Galiher reading the answers.)

• • • • •

"Question: Would you, for the record, please state your full name, your age and your present address?

"Answer: Robert George Harrar. I am forty-three, and I live on Ridge Road, Oriskany, New York.

"Question: Sir, by whom are you presently [Tr. 363] employed?

"Answer: Mohawk Airlines.

"Question: In what capacity?

"Answer: I am Director of Pilot Training."

• • • • •

"Answer: Then in April of 1963, I assumed the Acting Director of Flying position, which was [Tr. 364] vacated by Mr. Graham. I held that until August of 1963, when they brought Mr. Jones in as Director of Flying. At that point in time, I went back to Flight Manager.

"Question: Sir, are you a pilot?

"Answer: Yes.

• • • • •

"Question: Were you qualified to fly as a pilot?

"Answer: Yes.

[Tr. 365] "Question: As a captain in command?

"Answer: Yes.

"Question: On Martin 404's as of July 2, 1963?

"Answer: Yes."

• • • • •

"Question: The Martin 404 aircraft at that time had some sort of a device for steering by use of a nose wheel?

"Answer: Yes.

"Question: From what seat in the aircraft was the nose wheel steering manipulated?"

"Answer: From the left seat."

"Question: The location of that particular item of equipment was situated in relation to the left seat?"

"Answer: That's correct."

"Question: What was the procedure with regard to which person in the cockpit handled radio communications procedures while the aircraft was on the ground taxiing?"

"Answer: The man in the right seat would normally handle the radio."

[Tr. 366] "Question: What was the reason for that?"

"Answer: Because the airplane can be taxied easier from the left seat with the use of nose-wheel steering."

.

"Question: So that the V-1 speed for a Martin 404 aircraft, taking off from Rochester and with a gross weight of approximately 43,000 pounds, would have a V-1 speed of between 89 knots and 99 knots?"

[Tr. 367] "Answer: Yes."

"Question: Did Mohawk Airlines authorize or prohibit, as of July 2, 1963, a Martin 404 from either continuing its take-off or commencing its take-off where the visibility observed from [Tr. 368] the cockpit was less than the applicable take-off minima?"

"Answer: Will you define 'visibility from the cockpit'?"

"Question: What the crew in the cockpit observes with their eyes."

"Answer: The crew in the cockpit has no way of determining with absolute certainty what the visibility is."

"Question: You mean by 'absolute certainty,' mathematical precision?"

"Answer: I mean, they can't say it's precisely a half a mile. They have to go by the visibility that they are given by authorized visibility reporting agencies."

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[Tr. 369] "Question: Were you familiar with Section 60.2 of the Civil Air Regulations, which read as follows:

" 'The pilot in command of the aircraft shall be directly responsible for its operation and shall have final authority as to operation of the aircraft.'

"Answer: Yes.

"Question: Who had the final responsibility for all decisions with regard to the operation of the aircraft?

"Answer: The final responsibility?

"Question: Yes, sir.

"Answer: The captain."

"Question: After July 2, 1963, at Monroe County Airport, under what circumstances, if any, was Air Traffic Control authorized to deny a take-off clearance to a commercial aircraft carrying passengers for hire, and upon receipt [Tr. 370] of a request for a take-off clearance from such aircraft?

"Answer: I will read it.

" 'Withholding take-off clearance——'

"Question: Read it to yourself, and come——

"Answer: I know what it says.

"Question: Come to the part of it which relates to our situation.

"Answer: When the visibility——

" 'When the prevailing visibility for the airport of departure, or runway visibility for departure runway, is less than one-quarter of a mile.'

"Question: Now, sir, earlier you testified that Mohawk Airlines did not have in effect at that time minima with regard to runway visibility or RVR, correct?

"Answer: That is correct.

"Question: As of July 2, 1963, under what circumstances, if any, was Air Traffic Control at Rochester's Monroe County Airport authorized to deny a take-off

clearance to an aircraft, carrying passengers for hire, after receipt from [Tr. 371] that aircraft of a request for a take-off clearance?

"Answer: When the prevailing visibility or the runway visibility is less than a quarter of a mile."

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MR. GALIHER: At this time, Mr. Murray, on Page 2378 of the testimony appears an indication that when the aircraft took off on July 2, Flight 112, it was below the maximum allowable gross take-off weight, namely, it weighed approximately 42,923 pounds and the maximum allowable gross take-off weight was approximately 44,271.

Would you please stipulate to that?

[Tr. 372] MR. SILVERMAN: It is already in the record.

MR. MURRAY: The problem is—I find it right here—read Mr. O'Shea's comment. He comes up with a different weight there. If we can resolve the weight differential, I will gladly stipulate to it.

MR. GALIHER: Without getting into the precise weight, would you stipulate that the plane was below maximum allowable take-off limits?

MR. MURRAY: Right. And I would like to stipulate what the take-off limits were. That is, 44,271 pounds, and that the aircraft weighed no more than 42,936 pounds, in accordance with the highest estimate here.

MR. GALIHER: Thank you. Yes, sir.

[Tr. 387] JOSEPH W. MEEK was called as a witness by the Plaintiff and, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

By Mr. STEELE:

Q. Would you state your full name and address for us, please.

A. Joseph W. Meek, 1080 Lugo Avenue, Coral Gables, Florida.

Q. And what is your occupation or profession, sir?

A. I am a captain for Delta Airlines.

Q. When did you first obtain a pilot's license?

A. 1939.

Q. Have you been flying consistently and consecutively since then?

A. Continuously since this time.

.

[Tr. 388] A. From 1939 until 1940 I was in the process of obtaining a commercial and instructor's rating. 1940 to 1942, I instructed in civilian pilot training programs, both primary, secondary and cross-country.

In 1942 I entered the Ferry Command, which later became the Army Air Transport Command. In November of 1945 I went to work for the Chicago and Southern Airlines, which subsequently merged with Delta Airlines.

Q. And have you worked for Delta Airlines continuously since then?

A. That is correct.

The COURT: How long have you been a captain?

The WITNESS: I was checked out and flew a regular bid captain's position I believe since 1951.

Q. And how long before that were you a co-pilot?

A. From the time I went to work for the company until I was checked out. However, I held an airline transport pilot rating since 1943, I believe, or '44. I obtained this while I was in the Ferry Command.

Q. Captain Meek, can you tell us, please, what different airplanes you have flown commercially?

A. I assume you mean primarily airline-type aircraft?

[Tr. 389] Q. Yes.

A. D. C. 3, Convair 440, D. C. 4, Lockheed Constellation, D. C. 6's, D. C. 7's, Convair 880's and D. C. 8's, both 51 and 61 models.

Q. Is the Convair 880 quite similar to the Martin 404?

A. No, the 880 is a four-wing, web-wing jet. The Convair 440 would be somewhat similar.

Q. Would you ever fly the Convair 440?

A. Yes.

Q. Is that similar to the Martin 404?

A. This is correct.

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[Tr. 390] Q. Captain Meek, assume, if you will, a thunderstorm west and northwest of the Airport, a diagram of which is in front of you, and assume further that you are in the cockpit of an airplane on Runway 28 where it would first taxi onto Runway 28 in preparation to take-off, and the plane is on the ground at this position.

Based on your many years of flying experience, do you have an opinion as to the better vantage point in which to note the movement of a storm from the west and northwest toward that airplane in this respect?

Is the better vantage point, in your opinion, the airplane or the Tower?

A. I would say the Tower.

[Tr. 391] Mr. SILVERMAN: I am going to object to that on the ground that there is no testimony that this witness has ever been in the Tower in Rochester or even ever landed his airplane at Rochester.

The COURT: Well, the question seems rather self-evident although I think part of your hypothetical should indicate the height of the Tower.

Mr. STEELE: Yes.

By Mr. STEELE:

Q. Assume further the Tower is forty feet high and is enclosed in glass on all pertinent sides.

Then do you have an opinion as to which is the better vantage point to note the movement of the storm, that is, the cockpit of the plane where I have placed it, or that forty-foot Tower which I just discussed.

The COURT: I am going to let him answer. I think anybody in the room knows the answer.

The WITNESS: The Tower would be, in my opinion, and I have been in towers. Not in this particular Tower. It would

be mainly—the cockpit of a 440 or a Martin, I would guess, is roughly twelve to thirteen feet above terrain. Visibility, if there is rain on the windshield, is not of the best. From this height it is pretty hard to judge [Tr. 392] movement across a horizontal surface, much harder than it would be if you were above it.

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[Tr. 393] Q. Captain Meek, can you tell us the problems of gauging the speed with which a storm is approaching you if you are on the ground and the storm is coming at you head-on?

[Tr. 394] Mr. SILVERMAN: My objection is that he has not indicated that there were any problems or that there were any difficulties.

Mr. STEELE: If any.

Mr. SILVERMAN: However, with that modification, I will accept it.

The COURT: Overruled.

You may answer.

The WITNESS: Well, you judge any movement by relative motion, and relative motion of an object coming head-on is not very apparent to you. If you can view it from the side, it has nothing to do with the cockpit problems, you can determine motion much much better.

The problem in viewing a storm from head-on in an airplane on the ground is the fact that you are fairly close to the ground, you do have the restriction of visibility due to windshields, and these are Nesa-heated windshields which do have some discoloration, and most of our windshields do have oil skim or something on them. The windshield wipers in some cases are good and in some cases are bad.

The thing I am trying to say is visibility is not of the best and to view a storm head-on, you don't have much relative motion from the storm, and from the side you would. [Tr. 395] You would definitely be able to determine the motion better.

Mr. SILVERMAN: I move to strike that portion of the answer

that deals with windshield wipers and/or with the Nesa-heated windshields. There is no evidence in this record as to this airplane in that regard.

The COURT: No, and the Court will not take that part of the evidence into consideration unless it is connected up.

Q. Captain Meek, the Clerk has just handed you Plaintiff's Exhibit 25.

[Tr. 396] The COURT: Your training requires you to know how to read a radar image or echo, does it?

The WITNESS: This is correct.

The COURT: Does that document before you appear familiar to you in terms of your experience?

The WITNESS: Yes.

The COURT: You may answer.

The WITNESS: This, I would assume, is a radarscope on the thirty-mile range with a large cell in the western portion that extends at least thirty miles in depth and evidently much further.

[Tr. 397] I would have to ask if this scope is in circular polarization or not as to the severity. If the scope or if the radar set isn't in circular polarization, I would say this is a very severe thunderstorm.

By Mr. STEELE:

Q. Your question is with respect to whether it is known as a CP radar, circular polarization?

A. CP is on or off at the time.

Q. That goes to the severity of the storm, does it not?

A. This is correct. CP is designed to take weather, as much weather as possible off of ASR or ground radars. They are used for traffic control.

Q. So if this were a CP radarscope and it showed that echo, would that indicate that that storm was of greater intensity or of lesser intensity?

A. It would be greater if the CP were on.

Q. Now, Captain, I want you to assume for purpose of the next question that you are scheduled to take off from the airport from which that radar echo had just been made. You are to take off within a period—to put it on the outside—of five minutes of the radarscope at the airport showing that echo, and I would ask you the following question: Would you want to be advised of the existence of that radar [Tr. 398] echo so that you could consider it in your decision as a captain as to whether or not you should take off?

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The WITNESS: I would certainly want the information, even if I did know the thunderstorm was there, because it gives me an indication of the severity, and this is a problem I have, would have as a pilot of knowing how severe the thunderstorm is. Its mere presence is not enough information.

[Tr. 399] By Mr. STEELE:

Q. And would you want to know this so that you could consider it as a part of your decision as to whether or not to take off?

A. Definitely.

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By Mr. STEELE:

Q. Captain, I have just asked the Clerk to hand you Plaintiff's Exhibit 22, which is a document with the caption across the top, "S2042Z," is that not correct?

[Tr. 400] A. This is correct.

Q. Do you understand that document, what it says?

A. Yes.

Q. Can you read it for us, that is, translate it for us into English?

A. Yes. This is a Special Issue 2042 Zebra Estimated

5,000 overcast 8 miles thunderstorm. Remarks are Thunderstorm northwest moving east, frequent lightning cloud-to-ground and cloud-to-cloud, wind northwest 18, and I assume—I am not too sure what the, “obs 1543E” refers to.

Q. Now, Captain, I want you to assume for the purposes of this question that that Telautograph report arrived in the Tower Cab at Rochester Airport at 4:43 p.m., that you were scheduled to fly off in the airplane in which you were captain at 4:45 p.m., two minutes after this report arrived in the Tower. I would ask you, in your opinion, and based upon your years of experience as a commercial pilot, would you have considered this 2042Z Special Weather Report in your decision as to whether or not to take off?

A. Yes, I would have considered it. I wouldn't have made a decision on not going based on this weather, or going, really, but I would have considered it and certainly taken a further look at the actual situation before I did take off.

[Tr. 401] Q. Would this exhibit, this 2042 Telautograph which I have just shown you, have been more important to you as a captain facing this decision than a weather forecast would have been?

A. Oh, yes.

Q. Why?

A. Well, a forecast is for an area. It is for a time that you are forecasting for. This is an actual occurrence that is occurring at the location that I am at and at the time basically that I am performing the take-off of the airplane.

A forecast would merely alert me within an area and within some time band I had a problem. This is a sequence or a report; it is something that is happening to me right now.

The COURT: Captain, let me ask you a question with reference to that.

You say this would prompt you to take a further look at the situation and you wouldn't make a decision on the basis of it alone.

Now, if you were in the cockpit and, as the evidence shows, perhaps at least one of your engines already started,

and you were about to ask for a taxi clearance to go to the runway, what is the Court to understand by your [Tr. 402] answer that you would take a further look at the situation? You are not in the operations room; you are revved up getting ready to go.

The WITNESS: If I were in the airplane—and I assume this is what you are saying—and had the engine started, I believe I would have probably taxied on down to the end of the take-off runway but I would have turned around or turned the airplane around so that I could have looked, on the basis of this.

Now, had I received information of the severity of the radar report showing a pretty severe echo on circular polarization, I possibly would have climbed off the airplane and looked at this time. But I would have definitely made some effort to ascertain the severity of the thunderstorm by my own visual observation.

The COURT: Proceed.

By Mr. STEELE:

Q. Captain, I want you again to assume a Martin 404 which is in good mechanical operating condition, no evidence of any lack of power or mechanical failure of any type on this airplane; that it is taking off within prescribed weight limits, it is not overweight; that it begins its take-off down a runway in a westerly direction; that it gets [Tr. 403] approximately a hundred feet into the air, no more than two hundred feet into the air; that it runs into a thunderstorm at that point; that it is observed at that point in what one witness who was a pilot has described as a stalled condition, seeming to be motionless; and that the plane having hit this thunderstorm arrived at the stalled position, then crashes.

Based on your many years of experience as a pilot, do you have an opinion as to what would have caused that plane to crash?

A. Well, if this was a fast-moving, severe-type thunderstorm that has a good wind shift in it, and these are usually associated, you will have some pretty heavy precipitation

falling out of them, which evidently this one did because the only thing that radar picks up is precipitation, moisture. It doesn't pick up a thunderstorm; it is actually picking up moisture. And you would most likely have some very good vertical and horizontal shears along the leading edge of this thunderstorm, and the airplane is in a fairly critical attitude. These can present control problems, one just due to turbulence, and two, they can actually stall the airplane with a sharp-edge gust. You can create a stall even though the air speed is indicating a speed at which you are not stalled as far as the book says. But sharp-edged gusts [Tr. 404] can definitely stall an airplane.

Q. Can that in turn cause a crash?

A. At a hundred feet, I would say it not only could cause it; it is inevitable.

.

Q. Can you give us the responsibilities of the captain under the regulations as you understood them in July of 1963?

A. Yes. Once the airplane moves under its own power. [Tr. 405] the captain is in complete command of the aircraft.

Q. Is that on the ground as well as in the air?

A. This is correct.

Q. You understand all my questions now are directed to July 2, 1963.

A. Yes.

.

[Tr. 406] Q. What categories of people can stop the take-off of a commercial airliner when it is scheduled to take off?

[Tr. 407] A. To my knowledge, only the captain, the Dispatcher, and the Tower may refuse me a clearance to go.

Q. If the captain wants to go and the co-pilot does not want to go, who has the authority to make the decision between those two?

A. The captain.

Q. Now, assume a situation where the captain is in the right-hand seat and the co-pilot is in the left-hand seat of the airliner; and then I will repeat my last question: Who has the decision between the captain and the co-pilot as to whether to go or not to go?

A. The captain.

Q. The seat makes no difference with respect to authority, is that right?

A. No.

Q. I put a negative in. We had better clear that up.

Am I correct in saying the seat makes no difference with respect to authority?

A. That is correct. The captain is in command of the aircraft at all times regardless of which seat he is in.

Q. Now, since you have been a captain for Delta, have you flown in the right seat?

A. Yes.

[Tr. 408] Q. With a co-pilot in the left seat?

A. Yes.

Q. And who has been in command of the airplane in those circumstances?

A. I was.

MR. SILVERMAN: We will object to this. Delta's practices are immaterial in this case.

The COURT: Well, forgetting the question of Delta, the question is: The captain is in command, no matter where he sits?

The WITNESS: This is correct.

The COURT: I gather that is what the testimony is.

By Mr. STEELE:

Q. Now, Captain, assume that you are in an airplane on the ground awaiting clearance to take off.

No, let me strike that, please. Let me back up.

Assume you get in your airplane, go in the cabin and you sit down, preparatory to taking off on a regularly-

scheduled flight. Would you set forth for us what radio channels or frequencies you would put on as a captain?

A. This would vary with the airport. Assuming that they do not have clearance delivery—they didn't at the time of this accident; I don't believe any airport at this [Tr. 409] time was using clearance delivery frequency. At this point, assuming here that the aircraft has two VHF communications navigation receivers, I would have the Number One set most likely on my company frequency and the Number Two set to the Ground Control frequency, and the two VHF navigation receivers, I would have set most likely to the first en route navigation facility that I would be cleared to, knowing this by experience. Having operated out of this airport, I can almost expect what the clearance will be.

Q. In your experience and based on that experience, is this a fairly standard procedure among airline captains?

A. The captains I know, yes.

CROSS EXAMINATION

By Mr. SILVERMAN:

[Tr. 410] Q. In a control zone visibility. And someone with an ATR rating——

ATR stands for what, sir?

A. Airline Transport Rating.

Q. Is that the highest form of pilot's rating?

A. Yes.

Q. In order to be a captain, is it your understanding that an ATR rating is required?

A. This is correct.

Q. And in order to achieve the ATR rating, are you required to be able to understand and recognize severe [Tr. 411] weather conditions?

A. Yes.

Q. Now, while the captain of the aircraft is the pilot in command, the co-pilot also has a responsibility for the safety of the aircraft, is that right?

A. Right.

Q. And is not that responsibility—does it not co-exist together with that of the captain?

A. The responsibility, yes; the authority, no.

[Tr. 412] Q. But the responsibility is there?

A. Yes.

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[Tr. 413] I want you to assume that there is testimony in the record that Plaintiff's 24 is the depiction of an echo at four o'clock, that is, p.m., Eastern Daylight Time; and I want you to compare Plaintiff's 24 with Plaintiff's 25, and in looking at those two, can you tell me whether or not that weather moved both east and south?

A. Yes, it evidently moved both east and south and grown somewhat larger.

Q. All right, sir. And in comparing the echo as shown on Plaintiff's 24 and the echo as shown on Plaintiff's 25, does it not show that it has moved across Runway 28 from the north towards the south?

A. Yes.

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[Tr. 414] Q. Now, sir, do you know the type of radar that is used in the IFR room from which these depictions were drawn?

A. I assume it is an ASR 4 or 5.

Q. All right, sir. And ASR radar does not give any altitude depictions, is that right?

A. That is correct.

Q. Just lateral depictions?

A. This is correct.

[Tr. 415] Q. And you say, sir, as I understood you to say, that the only thing you can pick up on this radar is precipitation, is that right?

A. Not necessarily—we might be arguing semantics here—it is heavy moisture—moisture. It does not necessarily have to precipitate out.

* * * * *

Q. Then all you can tell is whether or not the moisture content or precipitation content is heavy or light, is that right?

A. At the point that is showing on the radar, this is correct.

Q. And you cannot tell—assuming there is a thunderstorm within the echo, you cannot tell the intensity of that thunderstorm?

A. Yes, you can. Not to a finite value. But this is [Tr. 416] the whole principle of weather radar as we use it in the aircraft, is the intensity as we determine it is determined by the amount of echo or return we are getting and this echo or return is coming from moisture.

Q. All right, sir. Now what you just stated refers to weather radar?

A. This is correct. All radar is basically the same. It is just the matter of what frequency it operates on.

Q. Now, the weather radar is something you have in the cockpit of your airplane, is that right?

A. This is correct.

Q. On that weather radar you are able to manipulate the radar so as to pick up the height of any echoes, is that right?

A. No, I cannot. I can depict some relative height but I have no means of measuring the actual height.

* * * * *

[Tr. 417] Q. Now the radar in the IFR room you say was ASR radar?

A. This is correct.

Q. It does not have that feature of picking out terrain features, isn't that right?

A. I am not this familiar with ASR but my familiarity

will say it will because I have seen ground clutter in the scopes I have seen.

Q. Can you see the features, the height, as you can on the weather radar?

A. No, because the ASR radar's antenna is roughly forty to fifty feet above the ground. Any ground clutter that it would pick up would be on a direct line; and I do know that ASR does pick up buildings.

* * * * *

[Tr. 418] The WITNESS: I have some knowledge of ASR in some of the work I have done in safety work for the Airline Pilots Association. I have done work with both Centers and En-Route Centers and Control Towers IFR rooms, and attended many meetings on these subjects.

* * * * *

By Mr. SILVERMAN:

Q. Now, sir, it is my understanding your testimony was that you can tell the intensity of a thunderstorm and you referred to the weather radar in your aircraft.

Can you do that with the weather radar in your aircraft?

A. Qualitatively, yes.

Q. You have not had much experience with ASR, is that right?

A. That is correct.

Q. Are you stating that you can tell intensity of a thunderstorm with an ASR?

A. Qualitatively, yes, because of the fact that without the circular polarization the thunderstorms show up much better than they do with circular polarization. This [Tr. 419] is a tool that both Controllers use and the pilots use. I often ask the Controller, are you on CP or not, when he wants to steer me around this thunderstorm. It is a qualitative judgment factor.

Q. What does CP do now?

A. CP eliminates all but the strongest echoes.

* * * * *

[Tr. 420] Q. Now, you indicated that you would want to know that a thunderstorm was in the vicinity of your take-off area, that is, if there was one there, is that right?

A. This is correct.

Q. And in addition to getting the information from the tower or some FAA facility, you could pick up a thunderstorm with your airborne radar, is that right?

A. This depends entirely on the aircraft, the type of radar and where you are on the airport.

• • • • •
Q. Now, if you knew that the thunderstorm was there, [Tr. 421] one of the things that you could do as the pilot of a commercial carrier aircraft would be to ask for a vector to circumnavigate the thunderstorm?

A. This is one possibility, yes.

Q. Ordinarily can you see a thunderstorm or the build-up of a thunderstorm with your naked eye?

A. If it is isolated, yes.

Q. Well, if there is a whole front moving in, can you see parts of the front in front of you with your naked eye?

A. This is correct. From the ground usually, yes, but it can be obscured by a lower cloud deck or there are several ways that you could miss one.

Q. Now, sir, you were here today in Court and heard this message read as coming from Mohawk 112:

"Yeah, 'kay, we would like to make a left turn out as soon as practicable to avoid those thunderstorms coming in from the west."

Now, is that an indication to you that the crew of that aircraft saw the thunderstorms or knew about them?

A. I would say, yes.

Q. And one good way to avoid them would be to, as we said before, circumnavigate?

[Tr. 422] A. This is correct.

Q. It is good practice to avoid them, wouldn't you say?

A. Very good.

Q. If the clearance called for the aircraft to maintain runway heading and the storms were west of the airport and

the take-off runway was in a westerly direction, it would be a good practice to attempt to make a left turn and avoid those thunderstorms to the west, is that right?

A. Yes.

Q. In order to be able to make that kind of a decision, would you not have to know where those thunderstorms are?

A. Yes.

Q. And this message:

"Yeah, 'kay, we would like to make a left turn out as soon as practicable to avoid those thunderstorms coming in from the west."

This indicates that the crew knew that there were thunderstorms and where they were, is that right?

A. I would think so.

Q. And would you say, sir, that the left turn out was an effort to avoid those thunderstorms?

A. Yes.

Q. Incidentally, is lightning associated with [Tr. 423] thunderstorms?

A. I would say you almost have to have a thunderstorm to have lightning but you don't have to have lightning because you have a thunderstorm.

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Q. And would you expect that a pilot on the ground would be able to see lightning from cloud-to-ground?

A. If he is looking in that direction or if it is not masked by precipitation, yes.

Q. Well, when there is lightning, that kind of lights up the whole sky, doesn't it?

A. Usually but not necessarily.

Q. And when it lights up the whole sky, it even lightens through the precipitation? You have seen that before, haven't you? I don't know if it did it this time.

[Tr. 424] A. It would depend on the cloud conditions. If this is an isolated thunderstorm with blue sky completely around it, the lightning will light up anything. But in—

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[Tr. 425] Q. If the rain was so heavy that the windshield wipers would not assist the pilot in this regard, would you consider it good pilot practice to take off under such heavy rain conditions?

A. I have and I would continue to do so, yes, because I believe I testified before I have never seen a good set of windshield wipers on an airplane I have flown.

Q. I see. So in spite of heavy rain you would take off in any event?

A. It depends on a lot of conditions. Rain is not the only factor. Wind is a problem; gusts are a problem, visibility. I have taken off in heavy rain and I have [Tr. 426] refused to go in light rain.

Q. If your visibility was less than that required, would you take off?

A. No, sir.

[Tr. 428] Q. Assuming the captain is taking an airplane off, is flying an airplane and is taking it off. What is your understanding of the responsibility of the captain in so far as maintaining visibility above the minimum limitation?

A. I am not sure I understand your question. If you are asking me, is it the captain's responsibility to not take off when the weather is below minimums, it is his responsibility not to.

Q. All right, sir. And if the co-pilot is flying the airplane, does he have the same responsibility as you told us [Tr. 429] before?

A. No, the captain has the responsibility.

Q. And if you were co-pilot flying an airplane and the weather was below minimums or you felt it was unsafe and the captain ordered you to take off, would you do it?

A. I am not a co-pilot but if he were mine, he had better.

Q. I beg your pardon?

A. If he is my co-pilot, he had better.

Q. You have been a co-pilot?

A. Yes. The captain is in complete charge of the airplane and I think this should be very clear—

Q. Excuse me; excuse me.

Mr. STEELE: Let him finish his answer.

The COURT: Let him finish his answer.

The WITNESS: You cannot run a cockpit on an airplane by committee action. There is one man running the airplane; there is one man responsible; there is one man with the authority. This lies with the captain.

Now, I have many times had co-pilots tell me that we should not make an approach and we have successfully made the approach. I have also had co-pilots tell me they thought we shouldn't make the approach and I haven't made the [Tr. 430] approach. One man can only make a decision and we don't vote on it.

The problem is that the captain is the most experienced man in the cockpit and he is the man certificated to take the action. The co-pilot's job is to assist the captain and he is in an advisory capacity.

Now, certainly, there is a grey area here that if we are going to fly the airplane into a mountain, this is a completely different situation than some discussion as to whether weather minimums exist or not.

* * * * *

Q. So what you are saying, sir, is that the captain decides if there are minimums, is that right?

A. No, this is not correct. The captain decides, if the minimums do exist, whether he will make the approach or take-off. The minimums are decided by the FAA and the Weather Bureau. The FAA establishes the minimums on 511 forms. The Weather Bureau is responsible for giving us the weather. I merely decide, if I do have the minimums, as to my decision to go or no go.

Q. Then, sir, in order to decide to go, you would [Tr. 431] have to decide also that the minimums existed, is that right?

A. No, sir, I do not. If the Weather Bureau or the Tower gives me the minimums, I do not have to make a decision of whether they exist or not. I can legally go.

Q. All right, sir. By saying, giving you the minimums,

you mean if they give you weather information which indicates that the visibility and the ceiling are above the so-called minimums, is that right?

A. This is correct.

* * * * *

[Tr. 432] Q. All right, sir. Now, referring back again to Plaintiff's Exhibit 22, one of the things you told us was that Plaintiff's 22 would not have made you decide whether to go or not go, is that right, but it would have led you to make an effort to ascertain the severity of the thunderstorm?

A. Yes, this is correct.

Q. Now one way you would have done that would have been to ask the Tower for information?

A. Being familiar, I am sure, with the situation, I [Tr. 433] would know they had departure radar and approach control. This would be one method. I would have to get this through the Tower.

Q. All right. Let me ask it this way: Then if you wanted additional information, would you make a radio communication to the Tower and say: This is — whatever your flight number was — I see some thunderstorms out there. Could you please tell me what they are all about? Or words to that effect?

A. If I was alerted to it, yes.

Q. And if you were alerted to it by the fact that you saw those thunderstorms, would that lead you to inquire for information?

A. Yes, if my visual observation lead me to believe that I couldn't handle the situation or that it was severe.

* * * * *

[Tr. 437] The WITNESS: It wouldn't have been as much concern to me. The problem I would have on the basis of having the 2042 report and evidently seeing the thunderstorms myself would be their exact location and severity.

The COURT: Captain, isn't the speed of the storm a factor that you would want to know, also?

The WITNESS: The speed in movement is definitely a [Tr. 438] factor that you—This thunderstorm has evidently got some winds that are fairly contrary to standard assumptions, but—

By Mr. SILVERMAN:

Q. I ask you to look at Plaintiff's 24 and 25 again, Captain.

A. All right.

Q. The easterly edge of the echo as depicted on this is approximately fifteen miles west of the airport, is that right?

The COURT: Which one are you looking at?

Mr. SILVERMAN: At Plaintiff's 24.

The WITNESS: This is correct.

By Mr. SILVERMAN:

Q. And at forty-eight, forty-eight minutes later, the easterly edge has moved to just about west of the airport, is that right?

A. This is correct.

Q. So that the speed of the storm, can we say, is approximately twenty knots per hour, based upon the depictions as they are here on Plaintiff's 24 and Plaintiff's 25?

A. This is correct over the time span that is involved here. Assuming—

* * * * *

[Tr. 439] The WITNESS: You would have to assume that the echo remains the same size. From this picture I can't determine whether the echo, itself, is growing or the size of the core is growing or the storm is moving.

And I also say that this time is a function of the past. The time, the speed that we are talking of is the speed only

from the time 2000 Zebra to 2048 Zebra. At 2052 Zebra it might have a completely different speed.

By Mr. SILVERMAN:

Q. Then again, sir, in order to determine information of that character, one of the things you would do is call the Tower for additional information if you thought it important, is that right?

A. This is correct.

Q. Now, sir, could you also call the Flight Service Station [Tr. 440] to get information?

A. If I were flying my own airplane, I probably would. Flying an airline airplane off of a controlled airport, no. I could do it, yes, but I would get it from the same people. I get it from the quickest source.

Q. What would that be, your company radio?

A. This would be the Tower.

Q. The Tower?

A. This is the people I am talking to at the present time.

Q. Yes, sir. All right, sir.

Now you indicated that this Plaintiff's 22 you considered more important than a weather forecast because the forecast was for an area.

Is that the reason you gave?

A. Yes, at this particular time, yes.

Q. Area forecasts are important, though, are they not?

A. I am not saying they are not. I say at this particular time this would have been more important.

Q. How about a Terminal forecast?

A. This would have still been more important to me at the time of take-off or landing or whatever it might be.

* * * * *

[Tr. 447] Q. And, incidentally, weather information is broadcast on that VOR, is that right?

A. This is correct, but we never listen to it except for the broadcast.

* * * * *

[Tr. 448] The COURT: Do you listen to VOR at take-off time for weather information?

The WITNESS: No, sir. It is impossible to do it. We have got too many other people wanting to talk to me at [Tr. 449] this time.

* * * * *

Q. And when you have flown in the right seat, has there been another captain in the left seat?

A. I have flown with both captains and co-pilots in the left seat.

* * * * *

[Tr. 450] Q. All right, sir. You indicated that although the captain is in command, the responsibilities of the pilot and co-pilot are co-equal, is that right?

A. No, sir, they are not. I want to be perfectly clear on this. The co-pilot has a responsibility. The captain has both the responsibility and the authority. They are not equal.

* * * * *

[Tr. 452] Q. Now, in the aircraft, itself, when you get on an aircraft to take off, there are certain pre-flight checks, is that right?

A. Yes.

Q. One of the things you check out is the radio?

A. Yes.

Q. Both the captain on a twin-engine aircraft and the co-pilot go through these various checks, is that right?

A. Not necessarily. Either one can do it or both can share it. This would, I would think, depend on the company's procedures.

* * * * *

[Tr. 454] The COURT: As the Court understands it, the judgment of the captain controls.

The WITNESS: Yes, this is my understanding. This is

the way I operate my airplane.

If you are asking specifically from the point of the radios, there are times in a two-man crew that each man could possibly be listening to a different radio. It would be a small portion of the time, but this could happen, yes.

[Tr. 455] Q. One could be talking to the Tower and the other listening on the VOR, is that right?

A. This wouldn't be a very good practice.

Q. But it is just as possible?

A. It is possible, yes. You could be listening to anything.

* * * * *

[Tr. 403-A] JAMES J. BROWN, a witness called by counsel for Plaintiff, being first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION.

By Mr. STEELE:

Q. Would you state your full name and address for the record, please.

A. James J. Brown, 312 Hart Avenue, Staten Island, New York.

Q. What is your occupation or profession?

A. Airline pilot.

Q. For whom are you an airline pilot?

A. Mohawk Airline.

Q. Captain or First Officer?

A. Right now I am just checking out as Captain.

Q. Have you been a Captain in the past?

A. Yes, I have.

* * * * *

[Tr. 406-A] Q. Will you tell us what airplane you have flown since going to Mohawk?

A. Convair 240, the Martin 404, Convair 140, BC-111 and checking out in the FH 227 and in the Convair again.

Q. Directing your attention to the Martin 404, have you flown that as Captain and First Officer?

A. Just as First Officer.

* * * * *

Q. Can you tell us whether, in 1963, and more particularly in July, 1963—this is what I want your answer referred to—can you tell us whether it was standard practice in Mohawk to listen to the local VOR while on the ground awaiting takeoff?

[Tr. 407-A] A. No, it would not be. The only way you would listen would be to tune in a station as a navigational facility and identify it to make sure you have the proper station. Then you would shut off a selector switch, not the radio, the selector switch which is somewhat similar to turning your own radio down in the car.

Q. After you turned off the selector switch, could you hear any reports that came over the radio?

A. You would not hear any report of the VOR; no.

Q. Was this practice standard procedure for Mohawk in July, 1963?

A. It was standard procedure and it still is.

Q. Now, if you were on the ground awaiting takeoff, what radio communication would you rely on to bring you up to date on recent weather developments?

A. I would have the weather on my person from the company and for any recent developments I would rely on the ground control or on the tower.

* * * * *

[Tr. 409-A] Q. Captain Brown, can you tell us what some of the problems are when you are sitting in the cockpit on Runway 28 or on the ground near Runway 28, in gauging the movement of a storm coming at you from the west, with respect to the speed of that storm movement?

* * * * *

The WITNESS: I would say that, if you are on Runway 28

and the storm were approaching from the west, that you would have a little difficulty ascertaining the speed of [Tr. 410-A] the storm unless you had been sitting in the position for quite a while so far as observing the speed.

* * * *

[Tr. 411-A] Q. From your experience in having looked at Radarscopes you have seen, are you able to identify and understand what plaintiff's Exhibit 25 shows, what the drawing on that radarscope shows?

* * * *

The WITNESS: I would interpret this picture, [Tr. 412-A] this system on the radar as fairly dangerous system. If this were presented to me on my scope, I would definitely take evasive measures to circum-navigate it because this is a fairly dangerous looking system to my experience as to what I have seen.

Q. When you say you would circumnavigate it, does that mean while you are in the air?

A. Well, if I had seen this in the air, I would take measures to avoid it. It is apparent it is a dangerous system here.

Q. If you were on the ground, ready to take off, would you consider it important, that information such as that be relayed to you from the tower if it were available to the tower?

A. Definitely.

Q. Would you consider it important in connection with your decision as to whether or not to take off if you were the Captain?

A. I would consider that very important. I would want to know that this system were in the area.

The COURT: Now, Captain, when you are about to take off in a Martin 404, you have the radar on, in the nose of the aircraft.

The WITNESS: You have it on standby, yes, sir.

[Tr. 413-A] It is ready for instant use if you want it.

The COURT: So, you customarily check it out and know it is working and you have that on?

The WITNESS: Definitely; yes, sir.

The COURT: When you are on the ground, does that radar disclose whether or not a storm is approaching?

The WITNESS: With our radar we can scan an area ahead of us on the ground. However, it is not that reliable due to ground clutter and various objects around. You can get some indication.

The COURT: You see it from the height of the runway up to how high?

The WITNESS: Oh, I forget the exactness. I believe it is about 45 degree angle.

The COURT: And what range?

The WITNESS: Well, 150 mile range.

The COURT: What range do you set it at at take-off?

The WITNESS: You generally have it on standby for take-off.

The COURT: It is not on, you mean?

The WITNESS: You would have it on and warmed up, ready for use. The general practice is to warm up the radar for five minutes before you turn it on, and scan the area.

[Tr. 414-A] The COURT: Well, do you have it turned on at time of takeoff or do you simply have it warmed up?

The WITNESS: You generally don't. You generally have it warmed up, through my own experience.

The COURT: But not turned on in the sense that it is projecting?

The WITNESS: Not turned on in the sense that it is scanning.

The COURT: And your Mohawk's normal operating procedure did not require you to have it at take-off, turned on, so it was scanning, is that right?

The WITNESS: Not necessarily. However, if I suspected an approaching system or whatever, I may use the Captain's discretion to turn it on. I would try to scan it and would also ask the tower controller, if I suspected a system

approaching, if he has anything on his scope, which he would be in a better position to have the area scanned. He would notice this approaching system.

The COURT: Than you could from the ground?

The WITNESS: Than I could?

The COURT: Yes. He would have a better scope than you would?

The WITNESS: He would have a better scope. Due to the ground clutter, and so on, as I say, there would be certain limitations.

* * * * *

[Tr. 415-A] Q. You have been handed Plaintiff's Exhibit No. 22, which I have just described to you, which we are all familiar with, and I am going to ask you again to assume that you were the Captain on the ground at Rochester, that this report arrived in the tower cab at 4:43. You are scheduled to depart at 4:45. I would ask you if you would have considered this 2041 S- Special Weather Report, in a decision whether or not to take off?

A. I would definitely have this in considering and weighing the factors as to what is taking place here. Apparently it is a special report. I would definitely take this into consideration in so far as initiating a takeoff is concerned.

* * * * *

[Tr. 416-A] Q. Is a weather forecast distinguishable from a weather report?

A. This is a special report. The forecast is for the general trend of the weather for an area for a certain period of time.

Q. As a Captain, which do you consider more important, a special weather report, or a special weather forecast?

A. The special report would be more pertinent. It has here issued at this certain date time. I would check the time and it would be definitely more of an immediate nature.

Q. Now, Captain, the questions I am about to ask you

on a different subject, I am again referring to the time July 2, 1963, the questions that I ask you will refer to that date.

On July 2, 1963, you were a first officer, is that correct?

A. Yes, sir.

Q. On July 2, 1963, on Mohawk Airlines, will you tell us who—would you describe for us the responsibilities and authorities and different functions of a captain and a first officer?

[Tr. 417-A] A. Well, a Captain is charged with the responsibility of conducting the flight, safely transporting the passengers from the departure point to their destination, as I say, in a safe and efficient manner.

The co-pilot is responsible for the captain, whose duties are spelled out in company manuals. However, the Captain is the one who is responsible and has the authority.

Q. Is it the First Officer or the Captain under company regulations who had final authority with respect to whether to take off or not to take off?

A. The Captain.

The COURT: And that is true, is it, even if the co-pilot is at the controls and who is the man who is actually going to take the aircraft off?

The WITNESS: That is true.

That is definitely true.

By Mr. STEELE:

Q. Bearing on the last question by his Honor, assume that the first officer is in the left seat and the Captain is in the right seat; who has the authority whether to take off or not, the First Officer or the Captain?

A. The Captain.

Q. Assume the First Officer is in the left seat and under company policy, under company regulations he should [Tr. 418-A] not have been in the left seat, and assume that the Captain is in the right seat, who has the authority to take off, the First Officer or the Captain?

A. The Captain.

Q. Is that fair to say that is always the Captain's decision?

A. Definitely.

[Tr. 420-A] CROSS-EXAMINATION.

By Mr. MURRAY:

[Tr. 421-A] Q. Now, did Mohawk train you that flight through thunderstorms should be avoided?

A. That is right.

Q. And flight through hail should be avoided?

A. Yes.

[Tr. 422-A] Q. Did they train you that you were to avail yourself of applicable weather information and reports and to follow company policy and the Federal Air Regulations thereunder?

A. Yes, sir.

Q. Did Mohawk train you that one of the most important thunderstorm phenomena likely to affect an aircraft on take-off was the gusty wind associated with that thunderstorm?

A. Yes, and also through your own meteorological experience through getting your licenses, and so forth, you would know this, as I say, having studied weather phenomena.

Q. Did Mohawk give you some kind of training in meteorology or weather phenomena?

A. Yes.

[Tr. 424-A] The COURT: It is clear that the judgment is the Captain's. I understand that. You are asking him whether the Captain is, under the regulations of Mohawk,

prohibited from taking off if the conclusion, however arrived at, is that the visibility was under a quarter of a mile. You may ask that.

The WITNESS: I would say this: That, if the visibility were reported at 8 miles, as you say, and through my observation, looking out of the cockpit, I thought it was a quarter of a mile, I would first clarify whether the tower was reporting right now. I would call up and ask for their present visibility.

If I had doubts as to, let me say, if they said it was still 8 miles, then I would have severe doubts, I may have other recourse.

By Mr. MURRAY:

Q. Well, from your experience you have known that visibility can differ in value from place to place on the same airport?

A. Yes.

Q. I am sure you must have had occasions when you have noted discrepancies between the visibility and what you could see while standing on the runway, is that correct?

A. That is correct.

[Tr. 425-A] Q. Did Mohawk have takeoff minimum with respect to takeoff from certain airports in 1963?

A. We were restricted to a quarter of a mile. If it was less than that, we could not take off. We would have to have a takeoff alternate within a certain amount of time.

* * * * *

Q. Assume the visibility is below a quarter of a mile, under which Mohawk's operating procedure the aircraft would be prohibited from taking off at that time—the Court reporter cannot get a nod of the head.

A. Yes, that is true.

Q. If the Captain then directed you to take off, would you proceed to conduct a takeoff?

A. There would probably be a little discussion, if I felt that it were less than a quarter of a mile, let us say, as

Captain Meek says, "you do as I say," and so on and so forth.

[Tr. 426-A] But it depends upon the experience of the co-pilot. There would be quite a bit of discussion. But if I felt definitely that this situation was unsafe, as far as the conduct of the flight is concerned, any aspect of the flight. If I felt in my judgment, in other words, that this would be an unsafe operation, I do not know, I would ask the Captain to return to the ramp shop or something. If I felt in my opinion it were unsafe, I would not go on.

Q. And this would be in passenger-carrying operations, is that correct?

A. In any operations; yes.

Q. Have you ever as a pilot with Mohawk taken off in a passenger-carrying operation when rain was falling on your aircraft and that rain was associated with the arrival of a thunderstorm on the airport?

A. I cannot definitely state that I have. I have taken off in heavy precipitation, yes. I can say that definitely.

.

[Tr. 428-A] Q. Was it your custom, Captain, to conduct a pre-flight briefing of the weather at the time you were a first officer flying Martin 404's?

A. Yes, sir, generally the copilot made out the flight plan and checked all of the pertinent weather along the route of flight, terminal forecast, and would discuss it with the Captain and bring it to his attention, any pertinent data.

[Tr. 429-A] Q. Would this include Sigmets?

A. Yes.

Q. Do you know what Sigmets is?

A. Significant information, yes.

Q. Would your present flight briefing include severe weather forecast?

A. Yes. Anything that would be applicable to the flight as far as the weather is concerned, that definitely you were to consult anything to do with the safe conduct.

Q. Before boarding your flight, if you had additional

questions concerning the weather, what precautions would you take to obtain that weather?

A. I would call the dispatcher which I would ordinarily do, anyway, which was located in Utica, and discuss the weather along the flight for the day, the present weather and forecasted weather, and what I could expect. You usually have a very thorough weather briefing from the dispatcher because he has all the weather at hand.

Q. If you were in Rochester, how would you call the dispatcher in there in Utica?

A. Telefax system.

Q. How would that operate in general terms?

A. Just dial the Utica exchange and the extension [Tr. 430-A] number and I would get the dispatcher that I wanted.

The COURT: Are you talking from the plane or the ground?

Mr. MURRAY: From the ground, your Honor.

By Mr. MURRAY:

Q. Now, you could also call the Weather Bureau, is that correct?

A. Yes.

Q. Or was it your practice to call the Weather Department for weather prior to boarding the aircraft?

A. Generally, I would talk with my dispatcher. If I felt, in other words, that on the field, if I felt there were impending serious weather, I would possibly call the controllers on the phone through the tower and ask if they had pertinent weather.

Q. After the possible sources of weather information after you board the plane, you are taxiing out to the field, after that you could call the tower, is that correct?

A. Yes.

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[Tr. 431-A] Q. Now, when you tuned in the VOR prior to takeoff, as I understand it in order not to hear the 15

minute or 45 minute schedule broadcast, if you happened to be on the VOR at that time, it is necessary for you to turn off a particular switch, is that correct?

A. The selector switch.

Q. Now, you, if you do not touch the selector switch, you do not hear it. If you do not turn it off, turn the thing down.

A. The general procedure is to tune the radio to make sure that you have the radio on that you are going to navigate with and turn the volume down plus the selector switch due to the fact that there is quite a bit, you know, you are very busy preparing for the flight, the check list, and so on.

[Tr. 432-A] Q. Speaking of that check list, the before-starting engines check list on Martin 404 required that the radar be checked and so on, did it not?

A. Well, as I remember the radar was on the check list, it would be on standby.

Q. Now, on standby, that means all you have to do is turn a switch and you will start receiving a picture after it is warmed up?

A. Yes, sir.

Q. And it takes five minutes to warm up?

A. Yes, sir.

Q. Now, how do you go about checking it, assuming a before-starting check list showed checked and on—I understand how you turn it on, how do you check it?

A. Well, you generally check it in the air. In other words, on previous flights, if the radar is not written up as inoperative, you would assume it is operating correctly. If you check the radar on the ground in its working function, in other words, other than on standby, it might damage the radar itself. Not being an expert on the radar, I do not [Tr. 433-A] understand. But I have been told not to check in a confined area, there is a chance for the beams to bounce back and possibly damage whichever element it is in the radar, itself. In other words, this is to the

extent that I know. In other words, I would not check the radar in a confined area. I could possibly check it in an open area. Let us say this.

* * * * *

[Tr. 434-A] Q. And you were not required to put a presentation on so you could check it against some prominent ground or air object?

A. As I say, you would not want to do this.

Q. Are you back in the confined area?

A. Generally, to my knowledge of the radar, as I say, yes. In other words, if anything were in the way to cause this beam or signal to bounce back.

Q. What is the purpose of the radar on the Martin 404?

A. To scan the weather.

Q. It is called weather radar?

A. Yes.

Q. It is capable of receiving on the ground, is it not?

A. Yes. So far as I know.

[Tr. 435-A] Q. You were trained in that regard, were you not, Captain?

A. Yes.

Q. Tell me, are there two different modes of presentation on this radar?

A. The normal and contour.

Q. What would be the normal mode?

A. Well, the normal mode would be scanning ahead of you and receiving different objects, or, let us say, weather in the sky, and so on and so forth.

On the contour mode, you eliminate anything but the heaviest return so that you could isolate them and circumnavigate or whatever your procedure is that you are going to do at the time.

Q. The purpose of the contour mode is to point out the heaviest areas so they can be circumnavigated?

A. Yes.

Q. And this would be the highest water accumulation in them?

A. Yes.

Q. This would be reflected on the scope how?

A. As a black cluster or object, or "blip" as we call them.

[Tr. 436-A] Q. As opposed to the remainder of the screen being lighter?

A. Lighter, yes.

Q. Once the radar has been turned on and it is warmed up on a standby status, to get to either the normal or contour mode, all that is needed is to flip a little dial, right?

A. A switch. Yes.

Q. And you would receive an immediate presentation?

A. Yes.

Q. Where was the antenna for the radar?

A. In the nose.

Q. Did the antenna have a capability of being raised or lowered?

A. Yes.

Q. Was this done by some switch in the cockpit?

A. Yes.

Q. How much above the horizontal could the antenna be raised or lowered?

A. It is approximately, as I recall, thirty to thirty-five degrees, maybe forty degrees. I am not exactly sure.

Q. What effect would it be to raise the antenna, let us say, thirty or thirty-five degrees or maximum degrees [Tr. 437-A] possibly above the horizontal plane of the aircraft?

A. You would be scanning at a higher altitude.

Q. And eliminating ground return to a great extent, and clutter, is that correct?

A. Yes.

Q. Can you just give me a general figure of tilting the antenna up 20 or 30 degrees, at a distance of five miles from the airport, at what altitude would you be scanning, would you think?

A. Well, maybe 2,000 feet or so I would say.

Q. Up to what? Or would that be the highest?

A. Up to 2,000 or 3,000 feet. This is an uneducated guess.

Q. And turning it up to the maximum height, at a distance of five miles away, how many feet approximately, five or six thousand feet, do you think?

A. I would not say so, no, not that high. I would say the maximum would be around, maybe 3,000 feet or so.

Q. At five miles?

A. Yes.

Q. And the further out you go by the nature of the beam, the higher you would be scanning, is that correct?

A. Yes.

* * * * *

[Tr. 439-A] Q. Now, if flight through thunderstorms were anticipated, did Mohawk's operating procedures at that time, July, 1963, require that the radar be operative and turned on prior to leaving the ramp?

A. Yes.

The COURT: By "turned on," do you mean warmed up, or do you mean scanning?

The WITNESS: Well, it would be turned on and warmed up.

The COURT: But not scanning?

The WITNESS: Not scanning, no.

By Mr. MURRAY:

Q. What would be necessary to make it start scanning?

A. This gets into the facet, as I was speaking before, about turning on the radar in a confined space. As far as bouncing the beam immediately back to the radar, from what I understand, is damaging to the radar. As we said before, if I were in an open space, I could turn it on to scan the area and if I felt there were activity in the area and there was nothing aside from the weather in so far as ground objects [Tr. 440-A] close around, I could turn it on and scan the area.

The COURT: I think the question in the minds of counsel and certainly in the mind of the Court is whether, when you are out in an area such as the takeoff point on Runway 28, whether that, in your mind, is considered a confined or closed area, or whether it is considered an open area.

The WITNESS: I would consider it an open area.

By Mr. MURRAY:

Q. Captain, were you trained by Mohawk that, in flight, that would mean starting from blocks up at the ramp until you are on again, first officers were to follow all the orders of the Captain?

A. Yes. I was trained the Captain was responsible. Yes, sir.

[Tr. 422-A] Q. Did Mohawk train you at all in the procedure to be followed for aborting a takeoff?

A. Yes.

[Tr. 443-A] Q. Can you just tell us generally what it is without getting into specifics?

A. Well, the aborting of a takeoff, when initiating a takeoff if a discrepancy is noted, that is serious enough, that you consider serious enough in the short amount of time that you are rolling down the runway, you would stop the aircraft most expeditiously as possible; in other words, brakes and so forth.

Q. You are trained in the procedure of how to conduct this abort prior to flying on the line?

A. Yes.

Q. When abort procedure is carried out properly, it is a safe and accepted procedure, is it not?

A. Yes, I would say so.

Q. And will result, if carried out properly, in the aircraft stopping on the remaining runway?

Q. Yes.

Q. Captain, when you are cleared by Air Traffic Control to take off, do you consider this a direction to you to take off?

A. No, it is a clearance. In other words, the runway is clear and your path of flight is clear.

Q. Of other aircraft?

A. Yes, and you will receive a clearance for takeoff [Tr. 444-A] and initiate a takeoff.

Q. If, after having received a clearance for takeoff, you

conclude as a Captain, that it is not safe to take off, you can, of course, refuse to accept the clearance, can you not?

A. That is right.

Q. Wait until another time to take off?

A. That is very true.

Q. Request another runway if you felt it was more in line with the proper procedures?

A. You could do that, yes.

Q. Or decide not to go at all, if you liked?

A. That is correct.

Mr. MURRAY: Thank you, Captain. No further questions.

REDIRECT EXAMINATION.

By Mr. STEELE:

* * * * *

[Tr. 445-A] Q. If the FAA people in the tower said to you, as an example, runway visibility on Runway 28 is under a quarter of a mile, don't take off, would you disobey that instruction from the tower?

* * * * *

[Tr. 446-A] A. Well, no, I would not.

* * * * *

[Tr. 447-A] Q. Assume that the captain thought that visibility was above limits and, assume that the latest weather information you had gotten from the tower would indicate the visibility was above requirements and assume further this decision you described of a storm approaching you head-on, and then you [Tr. 448-A] recall the other assumptions that we put in, that the Captain wanted to go, that you were a relatively new officer and you knew another plane had just taken off in the same direction safely, would you, as a relatively new first officer, go along with the Captain?

* * * * *

The WITNESS: Well, from experience as to flying with different captains, and I would say a two-year co-pilot, I would say I would have faith in the Captain's experience and judgment. I would say I would definitely be inclined to go.

Once again, this is kind of a nebulous situation. There are so many different facets on something like this. But the proposition, as you stated it, I would generally say I would be inclined to follow his order; if he wanted to takeoff I would probably take off.

Q. Now, assume the situation put to you by Mr. Murray, [Tr. 449-A] assume you have a thunderstorm approaching you quickly from the West, assume that you are on Runway 28 in Rochester, and that you can see this storm yet you have just seen American Airlines take off, would you want the latest weather information that the tower had available before you decided whether to takeoff?

A. If I felt the system were approaching, in other words, if this were an obvious situation that a weather system were approaching fast enough, or the situation was serious enough, I would, as I said before, I would ask the tower if they had any pertinent weather on their scope, or whatever, or any information on this approaching weather. I would like the latest information that they have on this weather for the safe conduct of the flight.

* * *

[Tr. 452-A] The COURT: Now, Captain, the Court has some questions. What is the difference between the left seat and right seat in a Martin 404? Can the man in the right seat take the controls—are there alternate sets of controls in the right seat?

The WITNESS: Yes, sir. It is a dual-controlled aircraft. The only difference in the left seat as against the right seat is a steering wheel to be able to steer the nose [Tr. 453-A] wheel on the ground. It is to facilitate the steering of the aircraft.

The COURT: So that the only person who can maneuver the takeoff is the man on the left seat?

The WITNESS: No, sir. The man on the right seat. In other words, if the Captain were to take control as I say the Captain has the responsibility, if he felt, in other words—let us say, if the co-pilot, if he has a co-pilot or another Captain, which is done in the airlines, whereas I, as a captain went back to co-pilot.

The COURT: I understand that. But suppose at some point the man in the left seat beside you did not want to go and the Captain decided he wanted to go, could he run it from the other seat?

The WITNESS: Yes, sir.

The COURT: All aspects of the takeoff?

The WITNESS: He might have some problem in controlling the air flight before flying speed is attained, or rudder function.

In other words, there might be an area where there would be a little trouble so far as controlling the aircraft. However, if the Captain had given me the right seat and were taking off, short of having a brawl in the cockpit, in other [Tr. 454-A] words, if he said "I have got it," I would give him the aircraft because he is the captain.

In other words, he has felt that something dictated his taking over control of the aircraft.

That is why it is dual controlled.

The COURT: Have you ever had situations occur where there were elements of judgment involved on takeoff or approach or landing where the Captain has taken the controls from you?

The WITNESS: Yes, sir. In other words, the Captain felt that—I am giving you an example—I cannot recall anything specifically. But if the Captain felt in, let us say, a real gusty windy day or something that, through his experience with the aircraft and his experience as Captain that he could control the aircraft perhaps a little better than I could—

The COURT: He would just take over.

The WITNESS: He would just say, "I have got it, if you don't mind," or "I have got it," and that is it.

• • • • •

[Tr. 457] LOREN CROW, a witness called by counsel for the Plaintiff, being first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION.

By Mr. GALIHER:

Q. You are Loren Crow?

A. Yes, sir. L-o-r-e-n, C-r-o-w.

Q. What is your address?

A. 3064 South Monroe Street, Denver, Colorado.

Q. What is your occupation?

A. I am a consulting meteorologist.

Q. Will you discuss for us your educational training and background.

A. I have a degree, a Bachelor's degree with a major [Tr. 458] in Chemistry from Simpson College, Indianola, Iowa; A Master of Science Degree in Meteorology from the California Institute of Technology, Pasadena, California, with other special courses including one in Tropical Meteorology with a certificate from the University of Chicago.

Q. Where have you worked besides being a Consultant in Meteorology, and during what period of years?

A. Immediately following my training, I served as an instructor in Meteorology at California Institute of Technology, and additional time in the Pacific with the Air Force.

Following that I spent time again as an instructor at the California Institute of Technology. I served with another consulting firm in the capacity of consulting meteorologist from 1946 through October, 1955. From that time until September, 1964, I operated my own office as a consultant in Denver.

I then took a special assignment for the Chief of the U. S. Weather Bureau, now the Administrator of ESSA, Environmental Services Administration, Washington, D. C.

Q. What did that entail and how long were you with the Weather Bureau on that assignment?

A. I was with the Weather Bureau for a year and nine months, requested by the Chief to establish the first assignment as a Special Assistant for Industrial Meteorology reporting direct to the [Tr. 459] Chief. I returned to Denver to open my practice again or reopen it as a consulting meteorologist.

Q. Have you worked on any special projects involving thunderstorms?

A. Yes, sir. Various cases and studying as they may have related to some accident. I spent a two-year study of the life cycle of tropical cumulus in Southwestern Panama under contract to the National Science Foundation, and I am currently involved in studying for the National Science Foundation, a research contract in relationship to hail and rain in eastern Colorado and Nebraska and Kansas, over a historic period of ten years.

* * * * *

[Tr. 460] Q. What about a squall line—what is a “squall line”?

A. A “Squall line” consists of a group of thunderstorms, generally they develop inside the warm moist air mass and they consolidate, tending to form a line, thus getting the name “squall line” and consists of multiple cells of developing and dying thunderstorms that move along and over an area and can be identified as a squall line.

* * * * *

[Tr. 461] Q. What is a Transmissometer, Mr. Crow?

A. A mechanical unit which consists of a projector and detector which can determine the intensity of light received in the detector, and this Transmissometer reading then can be transmitted to represent the visibility.

I have a diagram, an illustrated diagram if the [Tr. 462] Court or anyone else would like to see what a transmissometer is.

* * * * *

[Tr. 463] Mr. GALIHER: Will your Honor refer to the diagram of the airport that I think you have on your desk.

The COURT: I have the big one. Someone took the other little one away from me.

Mr. GALIHER: Will your Honor look in the lower right-hand corner and you will see that that diagram was in effect as I believe, May, 1962.

The COURT: May 21, 1962.

Mr. GALIHER: Then will you look at the legend on the left-hand side and you will see a reference to the location of a transmissometer.

The COURT: The projector is No. 10 and the detector is No. 11.

Mr. GALIHER: Yes, sir. So, we see that as of that time there was a transmissometer at the Rochester Airport.

Now, may I call your Honor's attention—and it is south of Runway 28, your Honor.

* * * * *

[Tr. 464] Mr. Murray, this reflects the installations as of the time of the accident as well, does it not?

Mr. MURRAY: That is correct.

Mr. GALIHER: Next, I would like to refer you to the answers to certain interrogatories—at the trial in the month of December, 1965—interrogatories propounded by the Plaintiff to the Government with respect to the transmissometer, and I would like to offer the questions that were asked and the answers which are before Your Honor, into evidence as the next exhibit.

I would like to read the question to which the answer before you was given:

“Q. Was the transmissometer, which was in Rochester, Monroe County Airport on July 2, 1963, commissioned since that date?”

The Answer is: 1. “a. Yes.”

“b. If so, on what date?”

[Tr. 465] The answer is “September 1, 1963.”

Then the question No. 2.

"If the transmissometer referred to on Interrogatory No. 1 has been commissioned (a) were modifications made to the projector between the date of the accident and the commissioning, and if so, describe them in detail."

The answer to that question No. 2 (a) is "No."

And question 2 (b): "Were any modifications made to the detector between the date of the accident and the commissioning, and if so, describe them in detail."

The answer to question 2 (b) was "No."

And now question 2 (c): "Were any modifications made to the recorder in the weather bureau office between the date of the accident and the commissioning, and if so, describe them in detail."

The answer to 2 (c) was given as "No."

We, therefore, find, your Honor, that commissioning has then absolutely nothing to do with whether the transmissometer was recording and what it was recording as of the date of the accident, if it was recording at that time.

The COURT: Well, the answer, however, also states [Tr. 465-A] that it was not commissioned on the day of the accident: That it was not being checked because, if it was not commissioned, and there was no observer stationed at it, those answers are also offered I take it?

Mr. MURRAY: I have no objection to the entire thing being offered.

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[Tr. 467] Q. Now, what was the significant weather as reflected in those forecasts on the day of the accident—

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The COURT: Well, as I understand it, the question is

directed to weather conditions at or around the Rochester Airport?

* * * * *

[Tr. 468] The WITNESS: There is a special forecast which is part of the Tel-Autographic record which is Exhibit No. 30 and in this record it deals with a period of late that afternoon.

By Mr. GALIHER:

Q. Would you relate what it shows?

A. This is a special forecast. The Rochester Weather Bureau advises that scattered severe thunderstorms with locally damaging winds and hail and the possibility of an isolated tornado or two are expected in the general region, including the Rochester area, from 3 p.m., Eastern Standard Time. (EST.)

This was transmitted at 1352 Eastern Standard Time which would be 1452 or 2:52 p.m. daylight.

Q. Now, were you referring to a Tel-Autograph?

A. I am, Exhibit No. 30 which is a Tel-Autograph message about a special forecast of severe weather.

Q. Now, are you familiar with Tel-Autograph messages?

A. Yes.

Q. And the requirements with respect to the contents of such a message?

[Tr. 469] A. Well, the Tel-Autograph messages may contain many things. There is a communications linkage at the airport. They generally are used by Weather Bureau personnel and Tower people to keep, not only themselves informed, but the users who are also on the line, many times airlines operational offices, so that all are aware of what is going on so far as the weather is concerned.

The typical usage is for one of the senders to send the message. He identifies that time at the beginning of the message and identifies the type of message it is and puts a time element in the early part of the message so it is easy to identify that message.

In the end he should use his initials to identify who the sender is.

Q. Well, was that complied with in this case?

A. That was complied with in this particular case, yes. I think, I am not sure, it looks like a "D" something at the end as an initial.

* * * * *

[Tr. 471] By Mr. GALIHER:

Q. Give the weather information in chronological order at the airport on that day, if you please.

A. Do you mean, sir—

The COURT: Starting with the 2:52 message that you read.

The WITNESS: The TelAutograph.

By Mr. GALIHER:

Q. Yes, sir.

A. The 2:52 p.m. message that I read was contained in Exhibits 31, 32—I beg your pardon. Strike that.

Exhibit No. 30. This is No. 30 here (Indicating).

The next TelAutograph message is contained in Exhibit 22. It is a special observation at 2042-Z. It reads:

"Estimated ceiling of 5,000 feet, overcast sky condition, 8 miles visibility. Thunderstorm. A thunderstorm is to the northwest moving east; frequent lightning from cloud to ground."

Then there is an insertion not by the same writer that indicates "West-Northwest 18." That would be in knots.

This is signed, not by initial but what I believe to be "Obs.," indicating "Observation at 1543," which would be "Eastern Standard Time."

[Tr. 472] The COURT: Now, one witness, in reading that, said "Cloud to ground" and "Cloud to cloud." Do you see the words "Cloud to Cloud" in there?

The WITNESS: This particular one is "LTG" which is

"lightning", followed by the letters "C" and "G" which indicate cloud to ground.

The COURT: You see no reference to cloud to cloud?

The WITNESS: Not in this particular message, no.

Exhibit 22-A is a blank page. But it was part of a Telautograph record following the 2042 message.

The next portion is exhibit 31. This is a special, which starts out at 2052-Z.

"A measured 3800 foot ceiling of overcast condition one-half mile visibility, thunderstorm, heavy rain shower."

The next item appears to be "A-plus," but it is very difficult to read the "A" on this particular Telautograph record. The A-plus does not quite fit with the type of condition that is ascribed to hail if it is hail, because there are only two that should be used as either A for moderate hail, or "AP" for light hail.

This follows the hail conditions. "Wind from the east-southeast 12 knots. Thunderstorm all quadrants, one-half inch hail stones."

[Tr. 473] Again this is signed by "observer" rather than initials. It is "Obs." This is at 1555 E which would be Eastern Standard.

The next is Exhibit 32 which starts out as "R," indicating that it is a record observation near the end of the hour. This is at 2059-Z, "Measured 3800 foot overcast sky conditions, 4-mile visibility, thunderstorms, moderate rain-shower."

The temperature 70, I believe, and dewpoint 62; the wind is from the east; the altimeter setting is 992. There is a thunderstorm—"Thunderstorms are noted from north through west moving east. Frequent lightning," and I believe it is "cloud to ground."

Although they both look like "G" and again signed "Obs.," indicating "Observer." The time, 1603-E, or Eastern Standard Time.

That, I believe, finished that.

By Mr. GALIHER:

Q. There has been introduced in evidence and is before

you a chart which has been referred to as a WBAN chart. That is Exhibit No. 33.

A. Yes, sir.

Q. Would you tell us exactly what that is and describe the information that is contained thereon.

[Tr. 474] A. The WBAN Form, both Parts A and B are the more or less permanent record of the observations made at Rochester on July 2, 1963. This is certified by Mr. John M. Williams, Meteorologist of Rochester as being correct, of a true copy of what was recorded on that date. It includes the record observations made near the end of each hour. It includes observations which may be brought about by the rules covering Special Observations, in order to carry out additional information relative to the weather at any given time. Most of what I have been discussing is on Part A.

On Part B there is a summary of the conditions each hour, used for making up hourly records of what happened right at the hour.

It also contains a section that deals with the synoptic observations made each six hours. There are columns that indicate the beginning and ending of precipitation and different intensities of precipitation: And there is a final section under "Remarks, Notes and Miscellaneous Phenomena," which is the 90th column, that the observers must complete in making a record of the day's weather observations.

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[Tr. 475] Q. Will you please, referring to the afternoon of the accident, will you make reference to the pertinent recordings on that report and explain the significance of it?

Mr. MURRAY: I am going to object. When you say "pertinent," do you mean from a time standpoint around the time of the accident? Otherwise, I am going to object to the witness testifying from this what he feels will be pertinent.

Mr. GALIHER: Mr. Crow has been here during the entire testimony and I think he is competent to interpret the

weather information contained on that report which would have any pertinency in and around the time of the accident.

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[Tr. 476] The WITNESS: On this complete form (Parts A and B) there is information that deals with visibility, ceiling and wind. The fact is that some specials that could have been entered do not seem to be here. They might have given information on the time of the wind shift.

Part B has information on the intensity of rainfall, the time that it occurred, the time the thunderstorm began and ended, the time the hail began and ended, and the size of the hail stones. The period of this record here covers the period between sometime early afternoon through sometime after the accident.

By Mr. GALIHER:

Q. Will you specifically start with the time and discuss those entries and their significance, if you will, please.

A. Well, they have certain significance in relationship to other of the exhibits.

Q. Would you please relate them as you go along and give us the number of any other exhibits that you make reference to.

.

[Tr. 477] The COURT: If you are reading from an exhibit, you might indicate that, and, if you are giving something from an opinion, you might indicate that.

The WITNESS: Yes, sir. In the case of visibility, I think it important to review the visibility of both Weather Bureau and Tower personnel in making such visibility records.

Referring to Circular N and that was in effect July, 1963, under Paragraph 2621, referring to Weather Bureau type operation—this also applies to the Navy—under the heading "Control Tower Action," it states: "Unless otherwise authorized, control tower personnel certificated for the purpose will maintain a continuous watch of prevailing visi-

bility when the prevailing visibility at the usual point [Tr. 478] of observation is less than 4 miles.

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[Tr. 479] Now, referring back to Column 13 on the WBAN form, I do not find the quadrantal report as required in "Mandatory Remarks" at any time during the day, including the period surrounding the accident.

• • • • •

[Tr. 480] The WITNESS: This is a regulation for quadrantal reporting. The evidence here is for the half mile which would put it below the limits so far as the present visibility limit is concerned.

Now, I now move to an opinion that, on this particular day, under the conditions, the weather was highly variable during the time of the thunderstorm.

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[Tr. 481] The COURT: He will have an opinion on that based on all of this material. As I understand it, where we are at this point is that there is no report of variation in different quadrants. When you get to your opinion, you are going to have a view, maybe this was not the case. I understand that and we will proceed.

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Mr. GALIHER: I propose to show a number of variations from required regulations and I propose to do that in stages, and then I propose to tie this all in at the end with certain questions asking opinions. I was, therefore, getting a preliminary opinion as I went along with respect to this.

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[Tr. 483] I made a search to find out if there was such a

record and I found none. I do not have any evidence of it here.

[Tr. 486] Q. Would you continue with your discussion, please.

A. I believe I was ready to discuss some material that was in this transmissometer record.

The transmissometer record which is Exhibit 28, certified by Mr. John Williams, Meteorologist in charge of the U. S. Weather Bureau in Rochester, New York, contains the record of the transmissometer during the afternoon. The record shows, the pen mark on this record shows the visibility dropped rapidly in the period between 3:40 and 3:50 p.m. Standard [Tr. 487] time, which would be between 4:40 and 4:50 p.m. That is Daylight time.

It then came back up to higher visibility by steps, moving past 4 p.m. and then there is what can be identified as a calibration check made on the chart at this time of day, which fits with the requirement for making such a calibration check near the time of the aircraft accident, which is required by Circular "N" under Paragraph 2730, Item 4.

It says:

"Enter time check and date-time group near trace whenever notified of an aircraft accident in the vicinity of the station."

The check which was made, or the test shows that the equipment was operating properly and that the pen arm swung for the full scale of the transmissometer record when the test pattern was run at approximately 14 minutes after 4 p.m.

The COURT: You mean after 5 p.m.?

The WITNESS: After 5 p.m., Daylight. 4 p.m. on this chart.

The COURT: Yes.

The WITNESS: On the WBAN Form 10-A in the Summary of the day, it indicates that the aircraft accident oc-

curred at 1549 Eastern Standard Time, which would be 4:49 p.m. [Tr. 488] daylight. That they were notified of the accident at 1550E which is one (1) minute later. These times are in the period when the transmissometer record indicates that quite low visibilities were being recorded on the transmissometer No. 28.

Q. What recordings were recorded?

Mr. MURRAY: May I hear the question back?

Mr. GALIHER: What was recorded with respect to visibility, is the way the question should read.

The COURT: At 4:49.

By Mr. GALIHER:

Q. At 4:49 and, if you will, take several minutes on each side of 4:49.

A. Using Exhibit No. 29, which is a table that gives the values to be used in determining visibility with a transmissometer having a 500-foot base line, that indicates that at approximately—and this is estimating in the 10-minute time span between 40 and 50 minutes past the hour—that at approximately 48 minutes past the hour there was an abrupt drop down to a value at approximately .053 as read on the scale of the transmissometer chart.

And .053 is down in the visibility range of $\frac{1}{8}$ th mile.

[Tr. 489] The COURT: You say it dropped down. What did it drop down from?

The WITNESS: It was previous to that. It is not easy to read this chart for high visibility ranges but well above 4 miles. So that at 45, 46 and possibly 47, it was in the range outside or greater visibility than 4 miles. At approximately 48 or 47, it makes such a sharp and abrupt drop.

The pen arm then tends to stay in and near that range, going back up a little bit, for approximately two to three minutes, and at 50 minutes past the hour. The line mark is moving upward again at 51. It goes back to slightly above a reading on the chart of .534, which is the threshold value for visibility of one-half mile.

It then proceeds to increase in visibility values as the

pen arm progressively moves upward on the chart that I am looking at here, or toward higher values, passing the three-quarter mile visibility values at approximately 52 minutes past the hour.

It goes past the one mile visibility a few seconds later. It then fluctuates around that value and, at approximately 55, swings back to a value just less than three quarters of a mile.

Then the pen arm swings back up to visibilities [Tr. 490] greater than four miles. But at approximately the hour or one minute before the hour, it comes back to a value of less than three miles, and in the vicinity of one and one-half miles, then fluctuates back toward a higher visibility and stays that way until the time of the test run at fifteen minutes, approximately, past the hour.

The COURT: Is it agreed between counsel as to what point is being read by this device? Is it being read where it is indicated on the plat, Plaintiff's Exhibit 14, that the detector is located?

Mr. MURRAY: It is read between the projector and the detector.

The COURT: Between 10 and 11 on this.

The WITNESS: That is correct.

The COURT: Which is off below 28?

The WITNESS: That is correct.

The COURT: Thank you.

The WITNESS: The next time that there is much significance on this chart is at a time that is just after thirty minutes past 5 p.m., Daylight, when the value decreases and arrives at a point on this chart corresponding to less than 3 miles but not quite down to one and a half miles.

Following that time, it proceeds to go to a [Tr. 491] higher value, and, after approximately 35 minutes past 5 Eastern Daylight, it goes about 4 miles, and for the rest of this chart, does not return to lower values.

Another value related to this visibility is on WBAN Form 10-A, Exhibit 30. The detailed sequence of the timing of intensity of the rain is indicated in columns 82, 83 and 84 of the Daily Summary.

Now, this indicates that a thunderstorm began at 40 minutes after 4 p.m., that a heavy rain shower began at 48 minutes past the hour: The degree which intensity of precipitation stayed at the heavy rain shower was 2 minutes, from 1548 to 1550 Eastern Standard time, one hour later Daylight time.

The hail began at 1550 and continued through 1555 associated and accompanied with continued heavy rain.

The hail stopped at 1555 but the heavy rain shower continued through 1558 at which time it changed in category from a heavy rain-shower to a moderate rain-shower, which continued until 5 minutes past the hour.

Then, again, the intensity increased to a moderate rain-shower between 5 minutes past the hour and 15 minutes past the hour.

At 13 minutes past the hour, it decreased to [Tr. 492] moderate rain shower and lasted for 13 more minutes in that category.

At 26 minutes past the hour it increased again to heavy rain-shower, lasting from 26 minutes past the hour through 32 minutes past the hour. It then changed to a light rain-shower, lasting for some 50 minutes and no more rain was recorded following that time.

The rate of fall is indicated another place on the WBAN chart, indicating that the hour ending at 1559, .14 of an inch of rain fell and in the hour ending one hour later, some thirty-four hundredths of an inch fell, making a total of .48 of an inch and this is the same period of .48 of an inch falling in this short period of time for that day.

Other visibility references are covered and would be considered by me as they relate to visibility estimates in the exhibits identified as 34-A and 34-B which are visibility marking diagrams for use by the control tower personnel to give reference to visibility that is based on what they can see surrounding the airport.

The other visibility references have to do with a listing of what may have been intended, and I do not know that this is necessarily intended to be a complete record of the observations made at Rochester that were transmitted on

the [Tr. 493] long-lines communications linkage to other airports. This is in Exhibit No. 36 which are the hourly values that were recorded at other stations, and this was submitted from the Cleveland-Hoffman Airport by Mr. Derk who was in charge there and consists of the hourly observations from 2 p.m. Daylight Time through 6 p.m. Daylight Time. In the period between 4 and 5 p.m. Daylight Time there were no Specials in this record that originated from the Rochester Station, giving the visibilities which were on the WBAN Form for the observation at 1542 and 1552.

Q. What is the significance of that, Mr. Crow?

A. The significance, I think can be explained by a notation in the outer margin of the WBAN form in which someone has placed the notation "F.I.B. I." which has to do with indicating that that observation was not transmitted to other stations and remained as a notation only on this WBAN Form which was kept in the Rochester Weather Bureau Office.

I will have more to say about this later. But it is important to review the various parameters that deal with visibility.

The other thing is a wind notation having to do [Tr. 494] with timing of the thunderstorm and when this took place, which I will deal with in winds but it has also related to visibility, the fastest mile was recorded on that date as 27 miles per hour. The associated direction was from the northwest, and the time 1548 Eastern Standard Time.

Q. What is the significance of that?

A. That the gustiness is associated with the thunderstorm. The highest wind of the day is associated with the thunderstorm and fits in the same time period as the low visibility with heavy rain.

I think that, for the most part, concludes much of the reference material relating to visibility. I did make a separate analysis of prior history of thunderstorm days in Rochester to review what happened on other days with similar thunderstorms.

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[Tr. 497] Q. Is there any other significant data on the WBAN report that you have not commented on, Mr. Crow?

A. Yes.

Q. Please continue.

A. It deals with ceilings and has reference to the relationship of measurements made by the ceilometer. A ceilometer is a mechanical device which is used for measuring ceiling heights by a projection of light toward the base of the clouds and the detector located some distance away which scans in different angles to determine when it detects a lighted circle on the base of the cloud.

The location of the projector is at the lower part of the diagram and has an 800-foot base line. This is the fixed-beam ceilometer and the trace which is submitted as a record of that type (or system) ceilometer is, I believe Exhibit No. 35.

The COURT: Well, now, does it measure directly above the area between the projector and the detector?

The WITNESS: In this case there is a diagram, the [Tr. 498] projector puts a beam of light directly—

The COURT: In any event, that was immediately above the projector?

The WITNESS: This is a record of the observations being made by this ceilometer. It shows how ceilometer records are utilized. It is contained in Circular N and here, again, you have different angles which are on the chart running from No. 10 through 90° which are above the horizon. The corresponding table in Circular N relates the height of this fixed beam with the ground. It would show and get a reflection of light on the clouds. It would be, at 45°, so many feet.

The detail gives his values to the nearest hundredth up all the way through 2400 feet above the ground. As it reaches this, it is not as close as the lower angle in the sweep of the detector.

Now, if the light is reflected on the bottom of the cloud, you get that wide node. When the detector moves, as I move up (indicating) to a center of light, which has a brighter point, and it gives a peak on the record and por-

trays a record which, on the upscan and the downscan, has what might be called the fattest part where it gives reflection or a spot on the bottom of the cloud.

[Tr. 499] Now, in making a complete cycle, 12 minutes are required—six minutes for the detecting beam to move up and six minutes to move down. Some sets have been manufactured which use only six-minute cycles, three up and three down.

The record made on this ceilometer on this date as portrayed here has a bearing on its validity because of the way in which the record is logged concerning the documentation of this.

The requirements are that for the record (See Paragraph 1470 in Circular N:

(1) "Enter Station time check and date-time group at beginning and end of chart or detached portion of chart."

On this chart there is little or no indication of those readings.

(2) The same paragraph heading says "Enter time check and date time group near trace during periods of operation."

And then "A" under that: "Between 1700 and 1800 Greenwich Median Time."

If I agree to accept that as so here, there will be one time mark on each day's record and would make it eleven Eastern daylight time in part of the United States."

"B" When notified of an aircraft accident in the vicinity of the station." Here I find the one indication on this particular exhibit is a small mark that says "4 P.M.E.S.T. next to a particular cross line on the chart. It does [Tr. 500] not contain a complete time log is clear.

There is a date time group on the chart showing off "Started 7-1-63 at 2023E."

That is assumed to be the ending of the previous day's record. But the full time check is not indicated as beginning the second day except a circled notation which says "On 10-52-E, 7-2-67."

Mr. MURRAY: "67" is wrong. It must be "63," Excuse me.

The WITNESS: This chart is certified as being a certified original record by Mr. John M. Williams, Meteorologist, in charge in Rochester. Having placed the table of values on a copy of the same chart, it appears that an observation was made from this chart to indicate what is shown on WBAN 10, a ceiling measured as M 38, and that would mean 3800 feet as shown in the 1552 special observation.

Q. What time would that be Eastern Daylight Saving Time?

A. That would be 4:52 and 4:59 p.m. Now, this particular chart indicates that this is not a good record of the ceiling. For the most part it does not show the typical brightness indication as the detector goes up and down. Of particular interest is a period for approximately twenty-two minutes [Tr. 501] near the time when the ceiling is reported as 3800 feet that no ceiling is recorded whatever.

Prior to that for a period of more than two hours there are indications that the ceiling was somewhat less than 1800 feet. If you wanted to use what is on this chart. That is at the same time they were carrying estimated conditions of 5,000 feet on the WBAN form.

Q. What is the significance of that?

A. To me it's significant that if you take one part of this chart, you would have to accept other parts, too. There would be a question as to whether or not this chart would contain any reliable record. To a certain extent some parts of the chart fit with the illustration given in Circular N for conditions which would be extraneous, or would indicate that the equipment was not working too well.

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Q. Do you have any further comment so far as the WBAN report is concerned?

[Tr. 502] A. Yes. On the ceiling conditions there was another exhibit presented which is Exhibit No. 38, which I have great difficulty identifying and I suspect that it is so recorded from the rotating beam ceilometer located at

some other part at Rochester. These are located near the middle marker which is off of the I.L.S. runway on the approach.

In this case I find it extremely difficult to separate signal from noise and really, am not able to use this for indication of ceiling.

The particular items in the WBAN form that deal with the ceiling are those already mentioned in which indications are that there was a ceiling earlier of about 5,000 feet and the ones measured at 3800, I will have more to say about that later when I will explain it in detail.

Again, without repeating it, the rate of change of the thunderstorm and the rainfall and the spread between the temperature and the dewpoint would relate to this ceiling phenomena.

The next item has to do with the wind indications which are on the WBAN form.

Item, there is a value for gusts to 40 in the observation remark column, on the observation of 1559 which is listed here is a record "Special Observation."

[Tr. 503] This observation indicates that at some time an observer somewhere, probably in the weather station, saw that there were gusts to 40 knots.

The COURT: Why do you say "some time"? What do you mean by that? Didn't he record the time as 4:59?

The WITNESS: I will refer to that next. It is typical to place such gust information in Column 11 immediately following the direction and speed of the wind in any observation where gusts are recorded. In 10-A such notation is not made.

The other part of WBAN Form which summarizes the material for the day in column 71, 72 and 73 has a space for peak gusts, speed, direction and time. In this case there is no record of any peak gusts on that day.

In the detailed segments of the observations transmitted from Rochester on that date, the observation which ordinarily would have been made and transmitted just before 5 o'clock daylight time and the sequence as furnished in Exhibit 36 from Cleveland indicates that the Rochester Observation was missing.

It starts out with "Buffalo" and then goes "Roc" and repeats that twice with no message following.

In the subsequent page of material furnished from [Tr. 504] Cleveland, Plaintiff's Exhibit 37, there is relayed as a Special minus a time which it should have, but we will assume that it is that same observation because it contains most of the same information.

In the "Remarks Column" of that observation, it contains the following notations:

"Thunderstorm northwest, moving east, frequent lightning, cloud to ground. Thunderstorm began 40. Hail began 50. Ended 55."

In the WBAN form from which this should have been taken, the remarks contain, following the hail time as ending at 55, the notation "GSTS 40" which means gusts to 40.

So, I find that there is some, well, I will have an opinion as to this later.

Q. Have you finished with a discussion of the wind?

A. Not quite, sir. The section of the summary for the day contains the notation already mentioned before, that the fastest mile in Column 90 of the WBAN form was 27 miles per hour from the northwest, and that occurred at 1548; from Circular N this time would indicate the beginning of time when the fastest mile is measured.

I would like to digress to define the fastest mile. The fastest mile is the measurement of the speed of the wind which is associated with the time of day when it [Tr. 505] requires a certain amount of hours to pass an anemometer and cause the anemometer to record enough times one mile of air passage. To illustrate, if it were going 60 miles an hour, it would require one minute to go one mile. If it were traveling at 30 miles an hour, it would require two minutes for that much air to turn it, the anemometer, that number of times. In this case it is near 30 miles an hour, just at 27. So, it would require slightly more.

The other part of the wind which is important is in the two observations which are on the WBAN Form at 1542 and 1552. The wind direction and velocity shown on the

WBAN form for 42 minutes past the hour is from the west-northwest at 18 knots. And the one 10 minutes later is from the East-Southeast 180° opposite at 12 knots.

This could constitute an indication of a wind shift since it is a full 180° . That finishes the comment on the wind detail record.

Q. I would like to ask you something about radar. What is weather radar?

A. Weather radar covers the general type of thing which is similar to rainfall generally. The range of sensitivity, it has to do with the wave length in which you transmit energy which is reflected back and received at [Tr. 506] the radar receiver from water droplets.

Generally that is used to measure water droplets which are large enough to be in the rainfall diameter. These send back certain information to be recorded at the radar receiver.

There are different types of weather radar. The range goes from approximately 3.2 up to 10 centimeters, each having somewhat different characteristics and the capacity is what you can see and see it through something of this category.

In the beam sweep of a surface unit, the beam moves around in a complete horizon. In aircraft it is generally put in there so it swings back and forth. Depending on the type of equipment the beam can be raised or lowered. With a high beam setting you can send it out in long distances and get evidence of rain several miles away from the radar.

Because the energy is started from a point near the ground, you suffer a loss of information close to the place where the energy starts. This is called "ground clutter" which keeps us from getting information back from the machine, itself.

If you could raise radar several hundred feet in the air, you could reduce the ground clutter. If you raise—but that is impossible to do. It would be better if it were off some distance. So, the ground clutter can extend [Tr. 507] out a good many miles if you have the angle very low, or

it could be only from one to four miles if it's angle is high.

But this high beam setting of weather radar you do not often use.

* * * * *

[Tr. 508] By Mr. GALIHER:

Q. Would you discuss the two diagrams or drawings prepared by Mr. Sufrin?

A. On the basis of the two diagrams themselves, they are drawings made by Mr. Sufrin. In the testimony read in the Court earlier I understand that he operating the radar which is primarily concerned with following aircraft on July 2, 1963.

In line with that background these two charts indicate to me his drawing of what he saw on that radar relative to some weather phenomena on that date.

Q. And what conclusion did you reach from the study of those two reports?

Mr. MURRAY: I object without a foundation as to his familiarity with this type of radar that was before Mr. Sufrin.

By Mr. GALIHER:

Q. Are you familiar with this type of radar?

A. Only in a general way. It is primarily designed to detect aircraft. It gives only a general idea as to what storminess is so in running it to detect in the area where they might be; it is less definitive of rainfall than typical so-called "weather radar."

[Tr. 509] Any radar that gives an echo back from rainfall tends to be, to some degree, a weather radar. But, by design the electricians have been able to give types of units which are specifically for weather radar.

Now, this relates to some other items on radar on the chart, defining the equipment available at the Rochester Airport. There is weather radar unit identified as being located at the Weather Bureau office in the southern part of the airport.

It says "W.B. Radar, Item 17" on this chart. I am confident that the radar at Rochester did exist. So far as I know, they were on the network for radar information, both received and sent, and they had a quality or capacity for observing weather radar on the night of July 2, 1963. I can not find observations made during these exhibits that portray what the weather radar saw on that day in or near where this thunderstorm approached. This is notable by not being present rather than having it to describe.

Q. Have you found in your analysis of these documents any additional omissions, or have you found any—

A. I find some in the WBAN form. The Circular N has certain requirements for special observations. [Tr. 510] These are generally covered under, beginning with paragraph 9130 in Circular N, having to do with Special Observations. Reading from that:

9130. "An 'S' observation may consist of one or more elements but when it occurs at the time of an 'R' observation, it is labeled 'RS' " and proceeds to go down and talk about the types of special observations that are required.

In this instance, the degree of rapidity with which the onslaught of the thunderstorm took place places heavy responsibility on the observer to include all of the Specials that might have occurred in the rapid decreases in visibility and/or other items. With slow change of the transmissometer going back upward he should have put in some Specials in the visibility ranges. The Visibility Rules are listed under Item 3 of Paragraph 9131 under "Criteria for Taking Specials." As we read from that: "Prevailing visibility (and runway visibility at Air Force and Navy Stations) decreases to less than, or if below, increases to equal or exceed: b) 3 miles; c) 1 mile; d) $\frac{3}{4}$ mile; e) $\frac{1}{2}$ mile; f) $\frac{1}{4}$ mile, and g) Weather Bureau highest instrument minimum."

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[Tr. 513] Q. Will you state whether or not you found any evidence whatsoever in those documents pertaining to any

evidence—pardon me—pertaining to any radar information that might have been used by the tower.

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Mr. GALIHER: Emanating from Rochester.

The WITNESS: The two documents which are here give some information, less than the weather radar would have given but they do relate it; yes, sir.

By Mr. GALIHER:

Q. Do you know when those were given to the tower?

A. No, I do not. They have a time as to when Mr. Sufrin said that and as to what he saw.

Q. Do you know if they were prepared after the accident, or any one of them?

A. I believe they were.

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[Tr. 514] Deputy CLERK: Plaintiff's 41 marked for identification.

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[Tr. 515-516] The WITNESS: This is a summary, Your Honor, of my opinion as to what was going on at 46 minutes past the hour and 47 past the hour and 48 past the hour on that date, with the greatest emphasis on the time of 48 minutes past the hour.

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The WITNESS: It is based on reading depositions which have been presented the past few days, plus these documents here, and a review of the general weather situation at that time.

By Mr. GALIHER:

Q. As a matter of fact, you have read all of the depositions prior to coming to court?

A. That is correct.

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[Tr. 519] Q. Now, Mr. Crow, when we took our afternoon

recess, we had just marked this drawing and you indicated that you had prepared it. It is marked Plaintiff's Exhibit No. 41. Have you discussed fully what is on it before we ask that it be admitted or whether or not other things are there that you wanted to point out that you had put on the drawing?

A. I believe we have discussed much of what is summarized on this drawing. It gives a visual illustration of what I consider was the situation at approximately the time of the accident.

Q. Mr. Crow, the map that you have prepared starts with what point of time in the chronology of events?

A. Well, there is a line to indicate the forward [Tr. 520] edge of the intense downpour of rain which would, in turn, cause limited visibility in the northwest corner indicated with an arrow coming in the direction at which most of it was taking place at 46 minutes past the hour. There is another line here to indicate approximately one minute later and another line here—

Q. May I stop you at this point? What was the forward motion of the storm at 4:46 Eastern Daylight Time?

A. It has been estimated, due to the progression of sightings and the sequence of the weather generally, that this is approximately at about 30 miles per hour forward motion.

Q. And from what direction?

A. From west-northwest.

Q. Will you continue and trace its progress.

A. Well, the major part of the chart has to do with the situation at 48 minutes past the hour. At that time, based on the evidence and the testimony that I heard in Court, there were large drops of rain falling in this area of the field.

There was heavy rain here which the plane went into with somewhat increased visibility but continued rain as shown by all records in this area of the airport.

[Tr. 521] Q. Referring to what part?

A. The western part. Having to do with the area generally of the north-south runway, the western part of the airport.

The COURT: Well, that first line indicates your opinion that at 4:36, coming from the west-northwest at 30 miles per hour was what?

The WITNESS: The forward edge which two minutes later is over here, of the downpour.

The COURT: Of the heaviest rain, the forward edge of the heaviest rain, is that what we are talking about?

The WITNESS: That is correct.

The COURT: And then that edge moves across in seconds to the east indicated on your chart?

The WITNESS: Well, it would be actually two minutes from that point to there (indicating).

By Mr. GALIHER:

Q. What is the explanation for the difference in shading of the two pink areas, the darker and the lighter areas?

A. The darker has to do with the rate of all of the precipitation. This was determined by getting the record from which the detailed record from which the summary [Tr. 522] was made of precipitation, and fits with the timing that is given on the WBAN form. There is a rapid rate of change in precipitation at the time. There would obviously be a major variability over the airport of visibility depending on where you were at a given time. The timing for the wind temperature unit is here (indicating) and the place for the transmissometer record is here, and the fixed beam ceilometer is here (indicating). All of these things have to fit together with the detailed record and the timing involved in these records.

Q. Did you consider all of those factors in making the diagram, as well as all of the documents before you, and all of the testimony which you have considered?

A. Yes, I did. The one minor notation that I should make is that from earlier information, I got information that the transmissometer was on the north side of the runway. The map which gives the detailed information indicates that

it is located right here (indicating), in either case, runway 28, which would not change any conclusion.

The COURT: You say "right here." Do you mean right to the right in the dark red portion to the east of the heavy rain?

The WITNESS: The preciseness—I do not want to over-emphasize this—this is within approximately one minute. [Tr. 523] The preciseness with which you can get this kind of map over a whole airfield would be, I think, impossible without a tremendous amount of observing equipment. But this, within the time scale of a minute which goes from, as was pointed out by some other witnesses, one second past the hour, before the minute and after the minute, it is within that time range to my best ability to produce it.

By Mr. GALIHER:

Q. Will you state whether or not in that interval of time reflected on the chart there was any change in wind direction?

A. Well, the indication as compared with the forward edge and the rear edge of this massive downpour of rain is portrayed in the actual WBAN forms and fits very well in thunderstorms.

You have an outpouring of air in front of the squall line here and one that moves air outward in the opposite direction behind it.

Q. When you refer to an outpouring of air behind there, are you referring to a second direction of wind from an east-southeast direction?

A. I am.

The COURT: Which the records show at 12 knots at 4:52?

[Tr. 524] The WITNESS: That is correct, your Honor.

The COURT: Yes.

The WITNESS: Which is well illustrated in the fundamental elementary diagram of what happens underneath a thunderstorm.

By Mr. GALIHER:

Q. Well, I think there is no question about that. You

mean by that this diagram shows by arrows different directions of wind?

The WITNESS: The flow of air underneath, winds near the ground accompanying a thunderstorm in an elementary book on weather. Behind the storm it is going out the other way.

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[Tr. 525] By Mr. GALIHER:

Q. Mr. Crow, during the period of time reflected on your chart for 46, 47, 48 and also including 49, based upon your analysis of all of the documents which you have discussed for us today, based upon the testimony which you have heard in this case, do you have an opinion as to the amount of visibility that existed in the vicinity of runway 28 during the critical times for 46, 47, 48 and 49?

A. Yes, I do.

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[Tr. 526] A. Yes, I do.

Q. What is your opinion?

A. My opinion is that in the heavy rain section, particularly the forward edge of the heavy rain, visibility was approximately one-eighth mile for a period up to two minutes near Runway 28 or on Runway 28 as it progressed across the field.

Q. And with this time element of two minutes, would that be prior to 4:49?

A. Well, I think the characteristic of the thunderstorm would not limit the visibility related to the thunderstorm. The time required is approximately the time for the thunderstorm to move over—to run across Runway 28 which is 5500 feet long.

Q. What period would you estimate the visibility was in the vicinity of one-eighth of a mile or was one-eighth of a mile?

A. Well, at a certain point of the runway where the heaviest rain was at a given instance, it was less at approxi-

mately one-eighth of a mile in that segment of the storm shaded in the dark red, in this case, on that chart, that is to illustrate what it was at one particular minute.

[Tr. 527] The COURT: In other words, you have a heavy band of rain, the forward edge of this storm sweeping down the runway?

The WITNESS: Right.

The COURT: And at every point that the forward edge was, as it progressed, it is your opinion that the visibility was one-eighth of a mile and that it reached that visibility at that point and continued for approximately two minutes?

The WITNESS: Well, not over two minutes, because of the dimension of the storm.

The COURT: Yes.

Q. Now, Mr. Crow, based upon your experience as a meteorologist—of course that was your answer to the last question as well—based upon your experience as a meteorologist?

A. Yes, sir.

Q. Based upon your experience as a meteorologist and again taking into consideration all of the documents before you and all of the testimony that has been read in this Court room, do you have an opinion as a meteorologist as to the cause of the air plane crash on July 2, 1963?

[Tr. 528] The COURT: You may ask him, it would seem to the Court, it seems you can ask him to tell the Court what, as a meteorologist, the conditions would be weatherwise within this heavy dark band if a plane was in there, and how fast the wind was going, and how turbulent it was—all of those conditions. I would take that testimony, from which you can urge on me inferences as to the cause of the accident.

Mr. GALIHER: Well, I will ask that, if Your Honor rules following my proffer that I am not entitled to ask the question as to what he proposed to do in the answer that he, of course, has already given me was simply to resolve this matter on the basis of the testimony indicating how the

plane came down the runway, its speed, and what the effect [Tr. 529] of the wind would have on this plane from a westerly direction to the east-southeast and he would approach it solely from the standpoint of the effect of the wind on the plane. He would not go into the operation of the plane at all.

• • • • •

[Tr. 530] Q. Now, Mr. Crow, would you please tell us, on the basis of the wind and weather conditions that existed at the airport during the critical periods as you have previously indicated, what effect the wind and the rain has as noted in [Tr. 531] the records, would have on the plane in this case the Martin 404, as it came down Runway 28 in a westerly direction toward the precipitation and toward the wind.

Mr. MURRAY: I object.

The COURT: This is your proffer. That is what I have ruled out.

Mr. GALIHER: I thought you would permit me to discuss the effect on the plane once it got into this area, and I can assure you that is what I am asking him to do.

The COURT: You must have misunderstood me, Mr. Galiher, and I am sorry if I am being difficult. I do not intend to be.

I said I would permit him to describe the weather conditions within this red band, but not in terms of their effect on a plane but simply what it would be like, and the Court really is quite interested in knowing what it would be like to be in the middle of this—how fast he thinks the winds were, whether it was clockwise, counterclockwise, whether it was turbulent.

Mr. GALIHER: May I accept what you have just said as my question and ask him to treat this as having been asked by me, and to answer it.

The COURT: In other words, Mr. Witness, what was [Tr. 532] going on in this heavy red area, in the vicinity of the runway? What was taking place weatherwise? What was

the meteorological phenomena? That, I think, is permissible, Mr. Galiher.

* * * *

The WITNESS: I think in the red area marked "heavy rain" on there, the downpour of rain and the spreading out of the cold air, which is generated by the evaporation of water into the air near the surface causes an outflow of air in both directions from the bottom of the heaviest column of rain. The weather parameters that deal directly with the crash are the air speed on the east side being a fractional part of the 18 knots from the west-northwest on the east side at 1542 in the record and from an easterly component at 1552 when you are on the west side.

I believe that the intensity outflow would have been slightly greater than this near the corner of this heavy red portion.

Since these are 180 degrees opposite, their total is thirty (30) knots. Since that is from the west-northwest and the east-southeast, the component in just east-west direction, the net component of outflow would be somewhere between 20 and 25, net knots difference in the speed of the wind [Tr. 533] on the eastern part of the runway and on the western part of the runway as it progressed through the heavy red part. This would correspondingly relate to how much wind would be facing the air plane and giving it more velocity. The second is the weight of the water on the top of the aircraft, itself.

* * * *

The WITNESS: The dimension of the weight of this is probably of the order of not more than one or two pounds per square foot. The actual dimension of the force, since the water was falling, might be slightly greater than that.

The third parameter which is a weather parameter is the turbulence involved. While initially explained as being uniform outflow on both sides, that is not the actual case in a thunderstorm. You have a turbulence taking place and volume of motion in both the vertical and horizontal taking place inside the thunderstorm, itself.

In this instance I have done, considering flying [Tr. 534] in thunderstorms, experimental. So, these are the three major parameters weatherwise that would pertain to this crash.

The COURT: In other words, to summarize it, the heavy wind, a strong wind facing the aircraft as it took off, had some depressing effect from the weight of the water because of the heavy rain, and the turbulence both lateral and vertical?

The WITNESS: Except, your Honor, in the first place, you have a dimension of outflow on the other side to add to the outflow on the east side so the net is adding them together.

The COURT: 20-25.

The WITNESS: The peak of the day took place at that time and it was indicated as 27 in the summary of the day. I, personally, believe it was slightly higher than these dimensions of ten minutes apart. That would be a very conservative estimate on the 20-25.

• • • • •

[Tr. 535] Q. You would take that question and eliminate "such as an airplane," what would be the effect on a forward-moving object into a thunderstorm where there was a windshift east-southeast, so far as its motions are concerned.

• • • • •

The WITNESS: It would have less buoyance because it would have less opposing motion in the surrounding air.

• • • • •

[Tr. 537] The COURT: I would like the witness' estimate of the moment when the forward edge of this heavy red band reached the control tower.

The WITNESS: It is my estimate that it reached the control tower sometime between minute 47 and minute 49.

The COURT: That is as near as you could pinpoint it on the information?

The WITNESS: Yes, because the beginning of the heavy rain was 48 as indicated in the summary. The control tower is right next to the weather station. They are coincident.

The COURT: I see where it is. I thought you had the heavy band 'way beyond the 48. So, I do not understand your answer. When did that heavy band, the forward edge, pass over the tower?

The WITNESS: Sometime between 47 and 49, which would put it in the heavy rain at 48.

[Tr. 548] Q. Mr. Crow, can you reach an opinion in this case, or suppose I ask your opinion: Is it any different in this case, using or not using the transmissometer record?
[Tr. 549] A. It would be essentially the same.

Q. Do you have enough information with or without the transmissometer, without those recordings, to arrive at an opinion in this case?

A. Yes, to arrive at an opinion.

Q. And is your opinion, or are your opinions with respect to the two questions concerning the visibility in the vicinity of runway 28, and what occurred when this plane went into this storm as you have testified to? Are they the same with or without the transmissometer testimony?

A. They are essentially in the general area, the same.

[Tr. 552] CROSS-EXAMINATION

By Mr. MURRAY:

Q. Mr. Crow, as I understand your opinion, the visibility during the time of 48 minutes past the hour of 4 p.m. on July 2, 1963 was $\frac{1}{8}$ th, according to your opinion from an analysis of the documents and depositions, is that correct?

A. It was $\frac{1}{8}$ th in a segment of along runway 28 is what I think I tried to indicate.

Q. Now, putting aside the transmissometer, can you tell me so that I may become clear here, what materials in the record you utilized in arriving at that $\frac{1}{8}$ th figure?

A. The heavy rain, the time of the heavy rain. In this case the indication of the transmissometer, in relationship of the wind, the general location of the thunderstorm, the depositions of other witnesses which I have heard here describing what they saw.

[Tr. 553] Q. We have only had, as memory serves me, the depositions of two men who testified they were down in that direction. I wanted to know whether you had read Mr. Stoppelbein's and Mr. Bettinger's depositions?

A. The notes I made relative to observations had to do, I believe, with four people, Stoppelbein—who was the one from the Northeast part?

Q. Bettinger.

A. Yes. Di Stasio and Thorp, all of whom indicated problems with visibility.

Q. Di Stasio and Thorp were not at Runway 28, were they?

A. They were in the tower.

Q. Now, the other two witnesses were at other points on the airport and not within the tower, is that correct?

A. That is correct.

Q. Can you tell me, was it your understanding that through the testimony of these gentlemen, an inference could be drawn of the visibility on runway 28 at sometime during that interval, that is what I want to know.

A. Yes.

Q. This is without reference to the transmissometer trace from your standpoint?

[Tr. 554] A. Yes.

The COURT: But you have taken into account a general appraisal of the general condition, that there was a thunderstorm and all of that I would assume.

A. Yes.

By Mr. MURRAY:

Q. Are you a pilot?

A. No, I am not.

Q. Have you been to the Rochester-Monroe County Airport before?

A. Only through travel in and out of there.

Q. You were at the passenger terminal?

A. Yes.

Q. Have you been at the tower?

A. I do not believe I have. I have in Syracuse but not Rochester.

Q. Have you been to the Weather Bureau at Rochester?

A. Not that I remember. I often stop to check in the Weather Bureau offices but I do not remember specifically doing this at Rochester.

[Tr. 556] Q. Now, on this Special of 2042 which is Plaintiff's No. 22, on line 2, there is a "T" at the end of the line and I believe you interpreted that as "Thunderstorm." Is that correct?

A. I believe I did.

Q. Do you know when a thunderstorm is deemed to commence for weather bureau purposes?

A. It is when the observer hears thunder.

Q. And if normal procedure were followed, when the observer at the Weather Bureau at Rochester heard thunder, he was required, under their procedures, to put out a Special report, is that correct?

A. That is correct. The indication as to when the thunder was first heard is in the remarks column and also on the summary as being 40 minutes past the hour, not 42. They filed this report at 42.

[Tr. 562] Q. Referring once again to Exhibit 22, the Weather Bureau identifier for a thunderstorm is "T", is that correct?

A. I believe so.

Q. That would be a thunderstorm without any rain at all, is not that correct?

[Tr. 563] A. That is correct.

Q. Once it begins to rain, what does the identifier do?

A. It is a rain shower so it becomes "R.W."

Q. Is it when the observer sees rain that it becomes "T.R.W." for purposes of Weather Bureau reporting?

A. I believe so.

Q. Referring to the WBAN Form 10B which you have before you, I believe it is exhibit 33.

A. Yes, sir.

Q. Now, what does that reflect—give me the starting and ending points from the Weather observer's standpoint in Rochester when the thunderstorm, with just thunder and without rain, took place on July 2, 1963.

A. Well, in the sequence of observations the hourly section, it indicates that thunder was first reported in Special at 1542. The remarks column says the thunder began at 40 minutes past the hour. "T.B." in remarks, "Thunder began."

Q. You are looking at 33, page 1 now, WBAN Form 10A.

A. Yes, I am.

Q. And is the latter part about thunder beginning [Tr. 564] 40, also confirmed by page 2 on the WBAN form 10-B form?

A. Yes, it is.

Q. Now, how long did that thunderstorm, without precipitation, occur, according to this record?

A. According to this record the beginning and ending of the period without rain was 8 minutes from 40 or up to 48.

Q. Now, referring to the 2042 telautograph message, that was signed off by the observer at 43 minutes past the hour of 4 o'clock.

A. Yes.

Q. So that up to that point he did not observe any rain, is that right?

A. Well, it takes him a certain amount of time to do this. He is in at the telautograph and actually writing this.

Q. Well, reading this in conjunction with 10-A and B, which reflect that the rains started at 4:48, wouldn't then, it be a reasonable conclusion that by 43 minutes past the hour, he did not observe any rain?

A. He finished the observation and he is filing it as of 42.

The minutes between that and the end of the message is the approximate time of doing the message. He went past that 29 or 30 seconds.

[Tr. 565] Q. So this would reflect at 2042 he heard thunder, is that right?

A. No. This merely says he filed it at 42.

Q. He filed it at 42 but sometime previous to that he heard thunder?

A. Right.

Q. From his position at the Weather Bureau at the Airport?

A. That is correct.

Q. Now, he goes outside at this time—is this the proper procedure?

A. I have no idea what he did at this time. In his various duties he has some obligation to get this on the teletype and send it around to other people. In this case he listed that he did not do this. At the end of the remarks. I am surprised at that.

Q. Well, you brought that out on direct examination.

A. I do not know what he did.

Q. Now, in the normal procedure he would have observed this frequent lightning from clouds to the ground, if this appears on exhibit 22?

A. I would guess so.

Q. At least so far as Exhibit 22 goes—

A. Right.

[Tr. 566] Q. From your examination of the records here, the first time the weather observer noted rain at what time?

A. According to Part B it was 48 minutes past the hour.

Q. And that would have been at the time when you had the visibility when, according to your opinion and analysis of the documents, the visibility was down to an eighth of a mile?

A. Yes.

The Court: May I interpose a question?

The Court is not clear on this phase of the case. When he says he does or does not observe rain, is he talking about rain immediately outside of the Tower or is he saying that

he is taking a gander all around and he does not see rain anywhere? I am not clear what the practice is. You may want to develop that.

Mr. MURRAY: Let me ask the witness if he is aware from a weatherman's standpoint what the procedure is when you are working at an airport for ascertaining when it is raining?

The WITNESS: Well, he is recording a rain-shower in this case, indicating that it is on the airfield and not a mile or so distant, which he would put the remark "There is a rain-shower such and so far in such a direction."

* * * * *

[Tr. 569] Q. From your experience in the weather bureau, do you have any knowledge concerning the operational use of non-commissioned observation equipment?

A. I am trying to think of instances where this took place, yes.

* * * * *

[Tr. 570] Q. While he is checking it out, then from your standpoint, this could be used in official weather bureau observations?

A. Well, you use the word "official." I would say it is used in observing the weather. The general guide lines that people use whatever is available, see, you use it.

Q. Let me put it this way. Used and disseminated outside of the Weather Bureau. Do I make myself clear?

The COURT: What he is asking you is, without this instrument being commissioned, would the man report observations based on it, outside of the tower?

By Mr. MURRAY:

Q. Outside of the Weather Bureau, yes.

A. Well, he is communicating with the Bureau and he sends a visibility message to another party on the teletype and it is part of the thing that he looked at like [Tr. 571] all of the reference points on the chart that he has. It is one

more parameter that gives him an opinion as to what the visibility is.

* * * *

[Tr. 574] The COURT: Well, Mr. Murray, in the light of that, I would like for you to think about the problem of these depositions a bit. The Court took the reading of the depositions on the plaintiff's case because it was represented by both counsel and the representation proved to be correct, that it would be beneficial in understanding the expert testimony.

Now, if you have from the depositions that have been read qualifying or minor variations you want to bring to the Court's attention, I wish you would consider whether the way to do that is by the marking procedure rather than by the Charlie McCarthy procedure.

I wish you would consider to what extent you, without feeling any prejudice to your case—feel you can submit some of the deposition material for the Court to read with the Court's assurance that it will read it, and which portions you want to give particular emphasis [Tr. 575] to by reading in the manner that the Plaintiff submitted his deposition.

* * * *

[Tr. 583] Q. Now, it is a common occurrence, is it not, that the passage of the thunderstorm, especially a severe thunderstorm as was forecast here, that a windshift will occur?

A. Yes.

Q. And that wind shift can be in the order of 180 degrees, is that correct?

A. Yes.

Q. This is more or less common knowledge to anyone with a basic knowledge of meteorology, is it not?

A. I would guess so. The degree need not be 180, however.

Q. It could be something less but it could be as much as 180. The 180 would be a complete reversal of the pre-existing wind?

A. That is correct. It is not a requirement that this be followed because of the wind shift. Since the second one is a special, it could be considered that that was one of the reasons for filing such a special.

* * * *

[Tr. 584] Q. Can you answer me this question, whether your understanding of the Weather Bureau regulations was that changes in prevailing visibility called for the issuance of specials, but changes in runway visibility did not?

A. Well, I am sure that the change in prevailing visibility does. I am not certain that you can erase that responsibility when you deal with a runway visibility.

* * * *

[Tr. 585] Q. How far was the weather bureau office at Rochester-Monroe County Airport from the transmissometer—well, what is your best opinion of that?

A. Looking on the map it is, I think approximately 2600 feet from the detector.

[Tr. 586] Q. Would the detector be closer or further away than the transmitter?

* * * *

The WITNESS: The detector is the closest part of the transmissometer to the weather station.

By Mr. MURRAY:

Q. Your best estimate that would be about 2600 feet from the weather station, is it?

A. No, it would be slightly closer than that, about 2450 feet.

Q. Slightly less than a half-mile, is that correct?

A. Yes.

Q. The visibility could differ greatly from within slightly less than a half mile, could it not?

A. I am not sure I understand your question. Visibility what?

[Tr. 587] Q. Could these visibility figures differ within two positions approximately half a mile apart?

A. Yes.

Q. So, the transmissometer does not reflect necessarily what the weather bureau observer at the weather station sees, is that correct?

A. That is correct.

* * * *

[Tr. 588] Q. Well, when you stated that the visibility was one-eighth of a mile, what particular point did that have reference to on the airport?

A. I would have to go back to get the individual questions and answers. But I think I said it had to do with Runway 28.

Q. Can you be any more definite about what segment of Runway 28?

A. I think it was the segment on which there was heavy rain or the thunderstorm.

Q. Did you form an opinion as to the prevailing visibility at the Weather Bureau Station in Rochester Airport at the same time?

A. At the same time there would be some time differential in arriving at this. I do not wish to infer that it is absolute as I have drawn these lines. But sometime near 48 minutes past the hour the heavy rain began down here at the weather airport station, as evidenced by further research that I did to determine how the beginning and ending of this precipitation occurred. This is to the best of my ability to read it from the chart from which it [Tr. 589] was said was 47 and a half to 48 minutes, down here where the rain hits. That places it within the time scale of approximately 47-1/2 and 48 minutes.

Q. At that time it is your opinion—no, what is your opinion as to the prevailing visibility at the weather bureau observer's station?

A. Well, the parameters that would be included in the prevailing visibility, which I had no evidence from the document submitted here, would be that the observer would be

forced to be limited to what he could see in all the various directions from that point.

Q. What is your best opinion as to what he could see in all directions from that point?

A. I think it was down in this dimension, in the north and south dimension to something in the vicinity of one-eighth mile. In the dimension going this way, it was greater than that.

Q. Can you give us directions on that?

A. Going east and west.

The COURT: Roughly east and west it was greater and north and south it was an eighth of a mile?

The WITNESS: Yes.

By Mr. MURRAY:

Q. May I have the benefit of what you based that [Tr. 590] opinion on in so far as records or testimony?

A. Well, both. I know the sequence of this storm going by, and the various points at which observers including the tower people observed the very low visibility, coincident with that. The general requirement that this man, before it hit, he could see this way perhaps eight or more miles. He could be able to see within a few seconds before it hit only at 500 feet in the direction in which it is coming. Then one minute later he is in the heavy rain. So this changes again.

Q. So, do I understand your estimate of the one-eighth of a mile there to be based more on the movement of the storm than any testimony from the area of the Weather Bureau office about an eighth of a mile?

A. I have no verbal testimony that they arrived at their prevailing visibility of one-half mile which is reported not at the time of 48, but 4 minutes later, they give the prevailing visibility as one half on the WBAN form.

Q. That is the time the report was issued, right?

A. The time it was recorded on this special as 10:52, on the WBAN form. I am sorry, 1552.

Q. Now, that time signifies the time at which the observer

had obtained all the necessary information for [Tr. 591] making the entries on that form, is that correct?

A. Perhaps. It is the time.

Q. It does not signify the time he took the observation, does it?

A. It does signify the time that he filed this; he started writing this line, and before that he would have had to do the various things that are necessary to make up the material which he writes in the line.

Q. It could have been two, three or four minutes that he took the actual visibility observation before that, is that correct?

A. It could have been. Now, when you are to give the incidents in connection with an aircraft accident, you should try to give the condition at the time that the accident took place.

Q. When did the accident take place?

A. According to this same document, it says that "Aircraft accident, 1549-E."

Q. So, if normal procedures were followed then the observer attempted to arrive at the prevailing visibility at 49 minutes past the hour, is that correct?

A. That would be as much as we know from this document, that is correct.

[Tr. 592] Q. Rather than the 52 minutes past the hour at which time he commenced to make the entries on WBAN Form 10-A.

A. Yes, that would be possible.

* * * * *

[Tr. 593] Q. Now, those forecasts quite universally predicted thunderstorms, high winds, turbulence, the possibility of hail and tornadoes for virtually all of New York State, did they not?

A. Well, there was a wide area that they could occur, at various times and places within a wide area and a span extending more than six hours.

* * * * *

[Tr. 596] From your reading of the transmissometer tape [Tr. 597] or chart, for what period of time did the storm reduce visibility then at the transmissometer installation, that is the recorder and the projector below one half mile?

A. I would say it is at approximately 2 to 3 minutes on this tape.

Q. So, after the two to three minutes elapsed visibility went up above half a mile according to the transmissometer, right?

A. Right.

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[Tr. 598] Q. Mr. Crow, have you, in your experience, working at airports, ever been aware of the Weather Bureau using a transmissometer for establishing or for publication of official visibility observations when there had been no read-out meter installed in the Weather Bureau and in the control tower?

A. Well, you used the word "official." Again I repeat, I think the observer is expected to use all tools available, including his eyes and everything else.

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[Tr. 599] Q. Now, what I am asking you is, that, in using all of these tools at hand, would he use a transmissometer, would he be authorized to use a transmissometer chart or trace when he did not have a read-out meter in the Weather Bureau and there was not one in the tower?

A. Well, if he has it in the Weather Bureau office, he has made a check and that he knows it is working correctly, then it seems to me that he has a tool which he can use.

Now, whether it is still not put in the tower would not keep him from using it.

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[Tr. 600] Q. Can he use it in that situation without a meter, or can he not?

The COURT: Under the regulations?

[Tr. 601] Mr. MURRAY: Yes, under the regulations.

The WITNESS: The regulations are that he has a responsibility to make visibility observations and he can use it.

* * * * *

The COURT: Perhaps, before you have your Redirect, Mr. Galihier, the Court has a question that I want to be sure that either counsel recognize they can object to if you feel it appropriate.

Do you feel, from your experience, Mr. Witness, that you have ever been on the ground when a thunderstorm, having the general characteristics that this thunderstorm had, was approaching?

The WITNESS: Yes, sir.

The COURT: How often?

The WITNESS: Including the time before I was a trained meteorologist, I would say, somewhere between 20 and 40 times.

The COURT: Well, now, will you tell the Court what such a storm looks like as it comes across a field or an open area—what does it look like?

The WITNESS: Well, —

The COURT: I do not want to see a picture. I want your description of what that looks like.

The WITNESS: The forward edge as it approaches is generally quite dark. There are gusty winds which are causing dust to be distinguished near the ground.

The COURT: Running ahead of it.

The WITNESS: Running ahead of it. Many times there is what is known as a roll cloud which is sort of boiling and this is near the forward edge of the bottom, sometimes about 500 feet above the ground and sometimes as high as 1500 feet. But it is the forward edge of the boiling up of this outrush of air. It is dark. Sometimes it is a little bit gray and it is a colloquialism in Iowa that if it were greenish, that would indicate wind. That is not necessarily true. It has a depth where you can see light scattered through. It is dark, and then the rain area

immediately behind that is pushing a column of whiteness down to the ground, so that as you look forward to it, toward the wall, that being about a mile away, the cloud is dark, particularly if you look at the west and it is afternoon, the sun is on the other side so that makes it even darker, and you can see the rain coming out of the bottom and the [Tr. 603] gusts blowing dust and see generally a roll cloud.

* * * * *

[Tr. 604] REDIRECT EXAMINATION.

By Mr. GALIHER:

Q. Mr. Crow, may I refer you to the transmissometer check. How soon after the accident was this check made, and would you refer by number to the exhibit that you are using to answer that question?

A. This is Exhibit No. 28. The beginning of the calibration check appears to be taking place at approximately 14 minutes after the hour. The accident was recorded as happening at 11 minutes before the hour. That would be 25 minutes before the beginning and then the check requires approximately a minute or a minute and a half.

Q. How was that check made and how was that check read?

* * * * *

The WITNESS: Well, the Circular N indicates the [Tr. 605] steps required to take with a transmissometer, to push a button and to let it show the full range, and it appears, looking at this exhibit that that was done and it does require that it be done near the time of accident, and that fits with this.

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FRANCIS McDERMOTT a witness called by counsel for Plaintiff, having been duly sworn, [Tr. 606] was examined and testified as follows:

DIRECT EXAMINATION.

By Mr. GALIHER:

Q. Your name is Frank McDermott, M-c-D-e-r-m-o-t-t?

A. Francis is the first name.

Q. Where do you reside?

A. I live at 1810 Melbourne Drive, McLean, Virginia.

Q. What is your occupation, Mr. McDermott?

A. I am a transportation consultant, specializing in matters of aviation safety.

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Q. When did you start to work for the United States Government, and in what capacity?

A. I joined the Navy in 1938 and spent the ensuing eight years, four years with the Federal Communications [Tr. 607] Commission and four years in the navy. I joined the Civil Aeronautics Administration in 1946 and served continuously from 1946 until 1959, at which time I resigned from the successor agency, the Federal Aviation Agency.

Q. Will you tell us what positions you held and where you worked during the time that you were with the Federal Government up to 1959?

A. The Aviation CA part?

Q. Yes, sir.

A. In 1946 I started with the CAA, the Civil Aeronautics Administration as an aircraft communication man at the airport in Columbus, Ohio.

A year later I transferred to the Chicago Air-Route Traffic Control Center and served there from 1947 until 1951 as a traffic controller and a supervisor.

In 1951 I transferred to the Cleveland Center and worked there for two years until 1953. At that time I transferred into the research and development arm of the CAA and for the next seven years was engaged in research and development on air traffic control and air safety, the development procedures for traffic control and airports in general.

This involved a transfer to the Washington Headquarters of FAA in 1957.

[Tr. 608] At the time I resigned from the FAA in 1959 my position was technical advisor to the Director of Research for the agency.

Q. You mentioned that you were at one time in Cleveland, Ohio?

A. Yes, sir.

Q. What experience did you have in connection with the tower at Rochester-Monroe Airport?

A. The Rochester Airport falls within the jurisdiction of the Cleveland Center. The Cleveland Center is responsible for the control of air traffic through a wide geographic area extending generally from west of Toledo, to east of Rochester. Portions of the responsibility for traffic control are delegated from the center to individual towers at places such as Rochester and Buffalo, Toledo and so on. As a supervisor in the Cleveland Center, it was part of my responsibility to review this delegation of authority to help in preparation of letters of agreement between centers and towers and to visit these airports and towers and observe the traffic control operation and this I did during a two-year period.

Q. How many times during that period did you visit the Rochester Monroe-Airport?

A. This was between 1951 and 1953. I would say at [Tr. 609] least twice.

Q. Have you been to the airport since that time?

A. Yes, sir.

Q. Now, during the years you were with the FAA and the several airports as you have mentioned, you were continuously an air traffic control worker?

A. Yes, sir.

Q. And was that in the air traffic control center, in the control tower, or just where?

A. From 1947 until 1953 my duties were in the traffic control centers in Chicago and Cleveland, as far as the normal eight-hour assignment was concerned. Those duties, however, in view of the delegation of authority which

I mentioned, included visits to towers in both of these areas.

Subsequent to 1953 in my research development activity with FAA, my activity in traffic control included all phases of control, radar, tower, center, the whole works.

Q. When you left the Federal Aviation Agency in 1959, what did you do after that?

A. When I resigned from the FAA, it was to accept the position as Executive Director of the Air Traffic Control Association, which was a professional society of traffic controllers, and my duties included the running of the [Tr. 610] Washington office and representing the professional traffic control interests in matters before Congress, as well as before the public.

I held this position for 15 months, at which time I left to enter business for myself as an air safety consultant, and this I have done continuously, working on airport development, noise abatement problems, accident investigation and matters of general aviation safety related to air traffic control.

Q. Does your experience include air traffic control as might be typified by the operation of the Rochester control tower?

A. Yes, sir.

Q. Describe what, if any air traffic control experience you have had with the Rochester Tower in addition to what you might have already mentioned?

A. In addition to the normal visits to the tower?

Q. Yes, if there was any other additional connection?

A. I visited the tower during my tenure as executive director of the air Traffic Control Association, which is my normal practice as I traveled around the country.

This would have been during the period of 1960 or early 1961 and I have visited the Rochester Airport [Tr. 611] shortly following this accident.

Q. Did you go into the control tower on that occasion?

A. Not into the tower, itself. I visited with the tower chief in his office.

Q. You are familiar with its location and its height

from the ground and the location of the weather bureau station with respect to the control tower?

A. I have been in the tower several times prior to that, and I visited the weather bureau installation at this time, yes, sir.

Q. As of July 2, 1963, was the traffic control operation of a center and that of a tower governed by the same regulations?

A. Yes, sir.

[Tr. 612] Q. Give us the duties of someone in an air traffic control center. Generally, I know there are many duties. Would you discuss the duties of a person in an air traffic control center?

A. Very briefly the air traffic control center which as I mentioned covers a wide area of the country, the United States is divided now into about twenty such areas, is responsible for the assignment of all altitudes and routes along the airways from terminal to terminal.

It is also responsible for the control of traffic in and out of airports where there is no control tower.

At locations where a tower has been established an approach control has been created, some of the responsibilities delegated to the tower for the control of certain air space within the vicinity of an airport. This will vary depending on a number of situations, from a five mile radius to sometimes 20 or 30 more miles.

The center controllers issue the clearances which are relayed to pilots by the tower controllers. The center controllers keep track of the position of aircraft along [Tr. 613] the airways and generally expedite their movement. It is a 24-hour operation just as it is in the towers.

The duties of control towers will vary depending upon the complexity of the field. But, generally, they are responsible for the movement of aircraft on the runways, from the terminal to the runways, on and off; for the regulation of the traffic that has been turned over to their control by the Center, and for turning aircraft over to the Center controllers.

In a situation, such as New York, for example, the traffic control facility very much resembles the Center because of the complexity and size. There are many towers where only visual operations are authorized where the responsibility delegated to the tower is minimal.

Q. Can you describe the operation at the Rochester-Monroe Air Traffic Control Center and the Control Tower as it existed July 2, 1963?

A. Yes, sir. Perhaps, just taking a typical flight that was going to go on an instrument flight plan from Rochester to some destination. The flight plan would be filed and this flight plan would find its way to the Traffic Control Center.

At the time the flight is ready to go, he contacts [Tr. 614] by radio some position in the Tower and requests his clearance. This request is then forwarded to the Center.

Q. Might I interrupt you?

A. Yes.

Q. Would that be, for example, local control?

A. Probably not local control. Sometimes they have a position called "Clearance Delivery." Sometimes they have a position called "Flight Data," depending upon the magnitude of their operations. But in general, in a small tower such as Rochester, the duties are combined. However, whoever had the responsibility for coordinating with the traffic control center would be the man who would call the Center to get this clearance. In Rochester probably the controller that was in contact with the pilot on radio at first would be the ground controller who issued the taxi clearance.

In any event, the matter is coordinated with the Center. The Center assigns a route and altitude for this flight. This then gives the tower the authority to release the flight to allow him to conduct his departure.

[Tr. 615] Q. Describe how the control tower operates so far as a commercial air plane is concerned desiring to take off from the airport?

[Tr. 616] The Witness: Well, this type of situation, assuming a flight plan has been filed and coordinated and [Tr. 617] the pilot is ready to go, he contacts the ground controller for taxi clearance to the active runway. This taxi clearance is then issued to the pilot and he is instructed to follow certain taxi ways to a runway, generally with instructions to hold short at the active runway. Obviously, if there are other runways that are being used in between, he is held there, too. But, in the process of this, the pilot is usually given his clearance.

Q. Might I interrupt at this point. What happens to this pilot in this plane desiring to take off if he fails to follow the instructions and orders given to him by the control tower?

Mr. MURRAY: I object.

The COURT: Sustain that objection. It depends upon what kind of order it is and what kind of instruction it is. The Court understands the testimony to be very clear about this clearance matter to a point that I would not think it was in dispute that, when the clearance is given, the Captain still retains the right to refuse to take off if, in his judgment, he does not believe he should take off. Is not that a clear fact?

Mr. GALIHER: There is no question about that, your Honor. But your Honor does not yet have testimony which explains to you the authority and control that the Federal Government exercises over any one desiring to fly in and out [Tr. 618] of this airport or any other airport, and what it does in the event a pilot fails to follow its instructions.

* * * * *

Q. Let us say the tower, as you indicated a moment ago, in talking about taxiing, gives taxiing instructions to the pilot. Those will include what he is supposed to do, will it not?

A. Yes, sir.

[Tr. 619] Q. What happens if the pilot of the plane fails to follow the instructions of the control tower?

* * * * *

The WITNESS: If the pilot takes the wrong taxiway or goes beyond where he has been told to stop, obviously the tower has no way to physically stop him. He will talk to him on the radio and try to correct this. He will use a light gun in case there has been some communication failure to try to get the airplane to stop. But in the normal process, if the pilot does not follow the precise routing described on the airport, the controller will take every action necessary to correct this.

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Q. Does the pilot have any right to disobey the [Tr. 620] instruction of the tower so far as taxiing in a particular area and in a particular manner as directed by the tower.

Mr. MURRAY: I object again on the ground it is too general and it is leading and I think the witness' previous answer explains what the correlative duties are.

The COURT: Mr. Murray, we must have a little leeway here. I am taking this testimony all with the understanding that the pilot's authority and Captain's authority can still be asserted against particularized instructions that, in his judgment, he does not agree with. Now, that point is protected. What Mr. Galiber is trying to do is bring out the general scheme by which the traffic on the ground at this stage is controlled by the tower.

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Q. Can a Captain, if he disagrees with the tower, to follow what Judge Gesell has just said, say to the tower he did not intend to taxi as directed?

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Q. Under what circumstance?

A. The circumstance could be wide and varied. But if [Tr. 621] the pilot disagreed, he could sit where he was and say, "I do not want to go."

It might mean there is no other way that he could go. It is not a normal thing that a pilot would suggest an

alternate route of taxiing because he knows the controller has superior knowledge of what is going on in the field and what the conditions are. So, it would be highly unusual for him to say "I would rather go out taxi A, rather than B."

* * * * *

By Mr. GALIHER:

Q. Now, what happens from the time local clearance is given to the time of takeoff?

[Tr. 622] A. By local clearance I am not sure I understand the term in terms of the local controller.

Q. Would you detail the steps and control of the various controllers as the flight commences its operation?

A. I think we have taken him out of the taxiway under the jurisdiction of the ground controller to a point where he is to hold short of the active runway. Just prior to this he is instructed to change frequency and contact the local controller who has jurisdiction over the active runway.

Once a communication has been established, the local controller at the appropriate time will either clear the aircraft to taxi on to the active runway, preparatory to take off, or may clear him to enter the active runway and take off, in one simultaneous motion. In any event, the local controller issues the clearance for the aircraft to enter the active runway and subsequently to take off.

Once the aircraft has taken off, and at some specified point which may be the far end of the runway, the edge of the field, or some point after takeoff, the pilot is again instructed to change frequency and to contact the departure radar controller, who in this instance would be located in a room below the tower cab, where he would identify the aircraft after communications had been established and take over the control from there.

[Tr. 623] Q. And how far does his control go? Let us say the plane is flying to New York City from Rochester?

A. This would be a matter that had been agreed previously between the Cleveland Center and the Rochester

Tower, and at some point specified in their letter of agreement, the departure controller would instruct the pilot to change to a frequency which would put him in direct contact with the Cleveland Center.

This is generally remote transmitter site in the vicinity of Rochester which allows pilots in that area to talk directly to a controller in Cleveland. At that point it would be at the direction of the Cleveland Center. At some time along his route the flight would be changed to a frequency which would put him in contact with a controller in the New York Center.

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[Tr. 624] By Mr. GALIHER:

Q. Does the flight plan also clear the altitude that the plane is to fly at during the course of its journey to New York?

A. The flight plan as filed requests an altitude. The traffic control center may give a different altitude, if they cannot for various reasons permit that one that was requested. But the authorized approved flight plan does contain the altitude.

Q. Is the pilot required to fly at that altitude during the course of his flight?

A. Yes, sir.

Q. Now, how does the pilot know what direction to take from Rochester to New York?

A. His flight plan specifies also in addition to the altitude, the airways that are to be followed.

Q. And what must that pilot do with respect to following an airway as called for in his flight plan?

[Tr. 625] A. He must stay within the confines of the airway once he has been established on the airway.

Q. And how will he know whether he is on that airway during the course of his flight?

Mr. MURRAY: I object unless there is some qualification here.

The COURT: This is awfully general testimony. He has the beam and he listens to it and knows when he is on the beam and is not on the beam.

Mr. GALIHER: Exactly.

The COURT: And we are off from the Airport now and flying some place this plane never reached.

Mr. GALIHER: I am just doing this—bringing out the control of the U. S. Government of this flight from beginning to end, your Honor.

The COURT: With respect to that, in that area if the pilot encounters at his particular level, or weather conditions which he does not like, he can request the center for a change, he gets the change and then he can take a different routing or different level, can he not.

And if he does not get that approval, he cannot.

The WITNESS: That is right.

The COURT: In the course of the flight his judgment is being exercised as best he can subject to the control of the center.

The WITNESS: Yes, sir.

* * * * *

[Tr. 626] Q. You have previously told us that you have been to the Rochester control tower on a number of occasions?

A. Yes, sir.

Q. Can you tell us what degree of visibility there is at the Rochester control tower so far as the controllers in that tower are concerned sitting in a position facing north is concerned?

* * * * *

[Tr. 627] The COURT: He certainly can describe what you can see from the Tower and how he can look around and all of that. I will allow that.

The WITNESS: The controllers in the Rochester area have an unobstructed view to the north and west and east, no large buildings or towering structures that would obstruct

their visibility from the Tower cabin. I do not know exactly what lies to the south of the field.

Q. Can you tell us, based upon your knowledge and experience and upon the regulations, what the duty is as it existed on July 2, 1963, on the part of the Air Traffic Controllers, if any such duty existed, for reporting visibility, once visibility at the airfield had decreased to four miles or below?

[Tr. 628] A. In general, once the visibility at an airfield where there is a control tower and where they are certified as observers, once the visibility drops below four miles, it becomes the responsibility of the Tower observers to take visibility observations and to report them to the pilots as well as to the Weather Bureau.

There are some special exceptions when the Tower, itself, is at such a height that it might be obscured in low clouds or fog. There is another exception that deals with the very distinct differences between the visibility observations of the controllers and the Weather Bureau.

Once the visibility goes back up to four miles, then the responsibility shifts again to the Weather Bureau observers.

[Tr. 629] Q. What, if any responsibility, does a tower controller have so far as being required to note any change in visibility in any particular segment of their range of view?

The WITNESS: Under the regulations when visibility in a particular quadrant, in a particular direction, differs significantly from the visibility being reported, it is the duty of the controllers, the observers in the tower to note and report these differences.

[Tr. 630] Before I get to that, I would like to ask you, are you experienced and do you have knowledge so far as the duty of Weather Bureau personnel is concerned at an air field?

A. Yes, sir.

Q. Will you tell us what duty the Weather Bureau had at the Rochester-Monroe Airport so far as transmitting weather information is concerned?

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The COURT: Under the regulations, do you mean?

Mr. GALTHER: Under the regulations.

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[Tr. 631] Mr. MURRAY: All right.

The WITNESS: The regulations governing both the Federal Aviation Administration and the Weather Bureau require at places such as Rochester where each has an installation that agreements be drawn, delineating the duties and responsibilities of each station.

It is incumbent upon both organizations to know precisely what is expected of the other. To this extent traffic controllers at a place such as Rochester would expect the Weather Bureau personnel to perform in accordance with the existing regulations.

Now, the reporting of the various weather phenomena that affects air traffic control, this includes specifically the reporting of any questions, any changes significant enough to require a special weather report.

Now, to provide this, the regulations call for the installation of certain communications lines like telephones, Tel-autograph and telegrams, and a various means of exchange communications.

It is a team effort and the traffic control operation relies upon the Weather Bureau installations at airports to provide them not only with the forecast anticipated weather, but the actual weather as it is occurring.

Mr. MURRAY: I will object and move to strike [Tr. 632] the witness' answer on the ground it is not limited to procedures at all but he testified as to what the controllers of the tower would expect. I believe that is far beyond the qualifications of this witness.

The COURT: I am going to take it as testimony relating generally to the manner in which towers operate. We have very precise testimony as to what took place here. Maybe we will have more, I do not know.

* * * * *

[Tr. 633] Q. What knowledge do you have concerning the operation of a transmissometer?

A. As I mentioned the period from 1953 to 1959 when I was engaged in research and development with the FAA in matters of air traffic control and where I ultimately became the technical adviser and director of research. The extensive part of our research which went on then and goes on now had to do with means of developing accurate weather reporting devices and techniques. It is particularly necessary and significant that at huge airports, the end of a runway might be, for example, two miles from the Tower. They are over such wide span you could have uniquely different types of visibility.

But starting at about 1957, with the Airways' Modernization Act and the appropriations that were created, [Tr. 634] a substantial amount of money went into just this very type of research, and the developments that have come in the transmissometer, a lot of them had their origin during this period. As technical adviser to the Director, it was my duty to be cognizant of all of these research and development projects which had an impact on air traffic control. The transmissometer was one.

* * * * *

[Tr. 635] The COURT: * * *

I think we do have it in testimony already that the transmissometer reads where the detector is and the

[Tr. 636-37] detector is located, you agreed on these exhibits, so we know where that was.

We also have in evidence that conditions may vary at an airport and may be different from the location where the transmissometer reading was taken.

Mr. GALIHER: Your last statement is exactly what I was endeavoring to bring out from the witness at this point.

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Mr. MURRAY: I will stipulate to it, your Honor.

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[Tr. 641] Q. If an intense thunderstorm is approaching Rochester from the West, an aircraft has requested a clearance [Tr. 642] to depart Rochester using Runway 28 which heads in a generally westerly direction; the radar controller at Rochester Tower is observing an intense thunderstorm on his traffic control radar; the Weather Bureau personnel at Rochester are observing the thunderstorm on their weather radar; the FAA Controllers in the Tower Cab are observing the approach of the thunderstorm from the west; the thunderstorm has a leading edge running north and south and the direction of movement is from west to east; as the storm crosses the airport boundary on the west side, the visibility in heavy rain decreases drastically; as the storm reaches approximately the middle of the field in the vicinity of the transmissometer, the visibility is recorded as less than one-eighth of a mile; the last visibility information that was given to the pilot of the departing aircraft was eight miles.

On the basis of those facts, what is your opinion as to the duty of the Weather Bureau personnel under the regulations?

The COURT: You are talking about the Weather Bureau personnel in the cab or down on the ground; which are you talking about?

Mr. GALIHER: The Weather Bureau personnel in the cab.
[Tr. 643] The COURT: Were there any in the cab?

Mr. GALIHER: I mean in their station, your Honor, which was behind the tower as your Honor has heard from the testimony.

The COURT: All right.

Mr. MURRAY: Do I understand the question is limited to procedures and regulations applicable?

The COURT: That is what I understand.

You may answer that.

The WITNESS: In view of this particular storm and what is known about it from the evidence included in your hypothetical question, it would be the duty of the Weather Bureau personnel to observe the approach and development of this very, very precisely, and to report the diminishing visibility in the proper increments to the control tower and through their other means of dissemination so that they are not suddenly confronted with a drop in visibility from eight miles to what was later on reported as a half, but what the transmissometer had recorded as one-eighth.

In view of the significance of this particular storm and the notice that they had of it, there should have been a more precise filing or following and reporting of the [Tr. 644] conditions before the impact.

By Mr. GALIHER:

Q. What is your opinion of the air traffic control tower personnel upon being confronted with these facts?

Mr. MURRAY: Objection unless it is limited to the applicable regulations and procedures in effect at that time.

By Mr. GALIHER:

Q. Under the appropriate regulations and procedures in effect at that time.

A. As far as the control tower, first of all, the controller at the radar, the procedures and regulations in effect at that time placed upon him the duty to alert the controllers in the tower cab as to the type of weather which he was observing on his radar. As to the controllers in the tower cab who were in a position to see the approach of the storm,

it was their duty according to the regulations to take over the reporting of visibility once it decreased to less than four miles, and again based on all of the evidence as to the development and approach of this storm it could not have possibly dropped instantaneously from eight miles to one-eighth of a mile.

• • • • •

[Tr. 645] The WITNESS: As the storm approached and the visibility which had been recorded at eight miles, as a significant decrease in the visibility occurs to the controllers as observed, it was their duty to first of all take over the official reporting and then to make observations and to make this information available to any aircraft who was on the radio frequency as well as to communicate it to the Weather Bureau.

It would become their duty according to the regulations to withhold take-off clearance to any aircraft which was proposing departure at the time this visibility had dropped to less than a quarter of a mile.

• • • • •

[Tr. 646] Q. Suppose they had already given a clearance when that information came to their attention.

A. It would then be their duty to cancel the clearance and withhold it.

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CROSS-EXAMINATION.

By Mr. MURRAY:

Q. Mr. McDermott, you never have had a certificate which permitted you to control traffic in a tower cab, have you?

A. No, sir. Those, sir, are issued only to people who have been assigned to the control tower operations.

Q. You were never in your many years with FAA assigned to a control tower, is that correct?

A. No, I was not.

Q. You have never controlled traffic in an actual tower environment, have you?

A. Yes, I have, under supervision.

Q. And that would be under direct supervision and in rare instances?

[Tr. 647] A. It depends upon your version of "rare." In my research work, it was more frequent than in my work in the center. But then it has been on numerous occasions.

Q. This would always be under direct supervision, is that right?

A. Yes, that was the nature of the work.

Q. Have you ever been an accredited weather observer in order to take tower visibility readings?

A. Again this accreditation is only accorded to people who are assigned to work in towers.

Q. This all goes back to the fact that you were never assigned to work in a tower so, therefore, you lacked these various certificates, is that correct?

A. The certificates, yes.

Q. One of the certificates you lack is being an accredited weather—a certified weather visibility man?

A. I do not regard it as any lack. I have never had a need to obtain one.

The COURT: He says he took the work but he did not have to be certificated because he was never in the tower.

The WITNESS: Right.

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[Tr. 649] Q. What tools do the center controllers use in carrying out their functions?

A. They use two-way radio in communications with the aircraft. They use radar to observe the movement of the aircraft.

Q. Now, when you were working at the Cleveland or Chicago center radar was not in use, was it?

A. That is right.

Q. So you were limited to using communications procedures?

A. Back in 1953, that is correct, yes.

Q. That is when you were at the Chicago center and at the Cleveland center?

A. Yes.

Q. Just so the record is straight, while you worked as an FAA controller in the centers, no radar was available?

A. In the centers, that is right.

Q. So your air traffic controller advices were provided by use of radio?

A. That is correct.

[Tr. 650] Q. You would not have visual reference to the aircraft?

A. Right.

Q. It did not become necessary for you to learn visibility observations, is that correct?

A. No, that is not correct. It was necessary. It was part of the job.

Q. Now, did you work in an open area, glass on all sides?

A. Not in the centers, no.

Q. The centers are just regular buildings like this building here, is that right?

The COURT: No, it has got windows in there—looking out over an airport. We there are in a tank.

Q. Then they had windows when you worked in them?

A. Both the Chicago and Cleveland center had windows that faced onto the airport.

Q. And the reason they could have those windows is because they did not have radar which would call for a darkened atmosphere, is that right?

A. Yes, that is one of the reasons.

Q. And the centers that are in existence today from your vast knowledge are all windowless, are they not?

[Tr. 651] A. I think this generally is true.

Q. Because, in the normal center work, visual reference to the aircraft and elements outside the building are not necessary?

A. Right.

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Q. The Master's Degree course you took at the University of Chicago was a three-months' course?

A. No, sir.

Q. You completed it in three months?

A. No, sir.

Q. How long did it take?

A. Twenty-four months, taking five subjects and going eight hours a day.

[Tr. 652] Q. When you are qualified to work in a center, you are not qualified to work in a tower by nature of that qualification?

A. It is just as easy to transfer from a center to a tower and go through the certification and training for a tower assignment as from one center to another. It is all air traffic control.

[Tr. 653] By Mr. MURRAY:

Q. When you are qualified to work in a center under the FAA regulations as you understand them, were you qualified by virtue of that qualification to work in a tower?

A. Not without the training and certification.

Q. Right. You would have to take training in the tower, is that correct?

A. That is right.

Q. And be qualified to work all of the positions in the tower, is that correct?

A. Yes, sir.

Q. Have you ever qualified to work the local control position?

A. I did not select that option. I have never been put to that test, no, sir.

Q. Have you ever qualified to work the control position?

A. I consider myself, when I was working for the FAA, as qualified to work it, at any position in the tower. Because

I was traffic controller. I never transferred to a tower and, therefore, the occasion never arose for me to take the test. [Tr. 654] However, I could have at any time.

The COURT: In other words, what you are saying, as I understand it, that maybe if you had a D. C. Driver's license, you would be qualified to drive in Virginia but you never got a Virginia license?

A. Yes, sir.

* * * * *

[Tr. 835] Q. Can you give the Court the benefit of your estimate of how long it would take a person who had not previously worked in a Tower to check out to work the Local Control position at the Rochester Tower in July of 1963?

A. Probably not over two months.

[Tr. 836] Q. And how long would it take him to be checked out on all positions within the facility?

A. Depending on the individual, I would say certainly within six months, assuming he had the basic Traffic Control qualifications.

Q. All right. And while he was being checked out, he would never handle the operating position himself, would he?

A. No, he would have someone there with him to supervise, that is right.

* * * * *

Q. All right. When visibility goes below four miles, a duty devolves upon the Tower to take some visibility observations, is that correct?

A. Yes.

Q. And in certain instances these must be relayed to the Weather Bureau?

A. Well, I would say in all instances, once this duty had

been assumed by the Tower, it follows that they would relay these.

[Tr. 837] Q. And as a matter of fact, the Weather Bureau is the only facility on the airport which disseminates official visibility observations, is that correct?

A. No, sir, I don't think that is correct.

Q. What other facilities would?

A. The Tower.

The COURT: The Tower to the pilot in aircraft on the field, is what the testimony is.

The WITNESS: Yes, sir.

By Mr. MURRAY:

Q. And the Tower to the Weather Bureau, is that right?

A. The Tower to the Weather Bureau and the Tower to the pilots under their jurisdiction.

Q. Doesn't the Weather Bureau have to agree as to the visibility as determined by the Tower observer before it becomes the official visibility?

A. No, sir.

Q. Is the Tower Controller required to advise the Weather Bureau of changes in visibility from their standpoint by the Telautograph?

[Tr. 838] A. Not necessarily. They would probably use the interphone. It could be by Telautograph but generally it is the telephone, interphone.

REDIRECT EXAMINATION

By Mr. GALIHER:

Q. Mr. McDermott, did you, following the accident, obtain copies of the transcriptions from the Rochester-Monroe Control Tower which were recorded on the afternoon of July 2, 1963?

A. I obtained a copy of the tape, itself, yes, sir.

[Tr. 839] Q. Did you thereafter run the tape and reduce to writing the information contained on that tape?

A. Yes, I did.

Q. And did you then prepare for us written transcriptions of that information?

* * * * *

[Tr. 842] Q. How did you arrive at the times?

A. These particular tapes did not contain any time check whatsoever. However, they did have one time which might be considered acceptable as a starting point, and that was the departure time of American 453.

I recognize this was just given in minutes, "forty-five," and, therefore, could vary plus or minus thirty seconds. However—

The COURT: Forty-five?

The WITNESS: American 453 was off at "forty-five," I believe.

* * * * *

[Tr. 843] The WITNESS: The tape copy which I made was made from the original tape and it was made in the presence of the FAA representatives and the Justice Department attorney.

From my own copy which I made under those circumstances, and starting with this base time of 4:45 Eastern Daylight Savings Time, I then computed the times shown on these transcripts for each of the transmissions.

Where it was necessary to go from one channel to another, I was able to find a common transmission which appeared on both channels and, therefore, used this time to transfer over and continue on my timing.

It is obviously not as precise as those tapes that have the automatic time inserted every five seconds, but this is certainly accurate within thirty seconds, I believe.

* * * * *

[Tr. 851] RECROSS-EXAMINATION

By Mr. MURRAY:

Q. When you say there is a plus or minus thirty seconds [Tr. 852] as the possibility of margin of error here, you base this on the fact that the time in aviation terms of 4:45 includes any time from forty-four minutes and thirty seconds past the hour to forty-five minutes and twenty-nine seconds past the hour, is that correct?

A. Yes, sir.

Q. So there is a total span there of fifty-nine seconds?

A. That is right.

[Tr. 868] Mr. GALIHER: The Plaintiff rests, Your Honor.

Mr. MURRAY: I would like to make a motion to dismiss for failure to make a prima facie case and also contributory negligence.

The COURT: The motion is overruled on both points.

Mr. MURRAY: We are about to start our case and I would like to make a preliminary statement.

We took into consideration the Court's comments of yesterday about deposition reading and I have prepared and will now pass up to be marked as an exhibit a summary of excerpts from depositions of about eight or nine depositions which we will not read at this time and will consider that the Court would read them as he saw fit.

The COURT: You may consider the Court will read them.

Mr. MURRAY: Let the record reflect we have provided a copy to counsel.

Would it be appropriate, Your Honor, for this to be given an exhibit number, since the portions would be [Tr. 869] entered into evidence by the Government.

The COURT: Yes, I think we can mark it for identification as your next exhibit number, whatever that is.

The CLERK: Defendant's Exhibit No. 3 marked for identification.

(Whereupon Defendant's Designation of Deposition Tes-

timony was marked Defendant's Exhibit No. 3, for identification.)

The COURT: That will be the manner in which we identify the portions of the depositions that the Government wishes to add.

Some of these are depositions of people which have already been read, are they?

Mr. MURRAY: That is correct, Your Honor.

The COURT: And some of them are new depositions.

Mr. MURRAY: One of them is a new deposition, Your Honor, which I would like to have marked for identification at this time.

That would be the deposition of Richard Eugene Shimel, S-h-i-m-e-l.

The CLERK: Defendant's Exhibit No. 4, for identification.

[Tr. 870] (Whereupon Deposition of Richard Eugene Shimel was marked Defendant's Exhibit No. 4, for identification.)

Mr. MURRAY: And the portions which we intend to rely upon are brief and are contained on Page 3 of our Exhibit 3, for identification.

The COURT: And you have marked them with your blue arrows.

Mr. MURRAY: That is correct.

We do have a logistics problem on some of the depositions that have already been introduced in the black folders. None of those have numbered lines, so we were unable to specify numbered lines. However, we have copies of those depositions on which we have marked in red the portions which we desired to have considered as evidence. Might I make the suggestion that we substitute at this time our marked copies of those depositions for the ones which have been marked for identification? Otherwise there is no way the Court can be aware of what we are relying on in those pages.

The COURT: Unless somebody undertakes to mark the red markings over onto the copies that are already identified, which is what Mrs. Harris votes for.

Mr. MURRAY: I was afraid you would come up with [Tr. 871] a suggestion like that.

The COURT: Would that be much of a chore?

Mr. MURRAY: No, Your Honor.

The COURT: With your own copies in front of you, you could mark the ones that are in evidence and you would have a duplicate of what you marked.

Mr. MURRAY: Do we have authority now to remove them from the exhibits overnight?

The COURT: Yes, you do. They are only identification exhibits anyhow. You may take them and mark them overnight.

When we adjourn, you can indicate to Mrs. Harris which ones you need.

Mr. MURRAY: Thank you, Your Honor. We have pared this down as much as we could. We still find it necessary to read portions from a total of five depositions of which previous portions have been read.

The COURT: All right.

Mr. MURRAY: There are also two depositions of which we will read portions from which no parts have thus far been read into evidence.

We would like to start with that right away, Your Honor.

[Tr. 874] (Whereupon the following excerpts were read from the Deposition of Robert G. Harrar, Mr. Murray reading the questions and Mr. Tait reading the answers.)

* * * * *

[Tr. 877] "Question: Mr. Harrar, were you familiar with the Mohawk Operations Manual, Page 13:05:01?

"Answer: Yes.

"Question: Did that page apply to Martin 404's?

"Answer: Yes.

"Question: This page mentions Convair 240; correct?

"Answer: That is correct.

"Question: But did it also apply to Martin 404's?

[Tr. 878] "Answer: Yes.

"Question: As of July 2, 1963?

"Answer: Yes.

"Question: Were the pilots and co-pilots of Mohawk Airlines required to be familiar with the provisions of this page as they applied to Martin 404 aircraft? As of July 2, 1963?

"Answer: Yes."

* * * *

"Question: Item 1 on that page states:

" 'Captains must have a minimum of 250 hours' command time in that aircraft type.'

"Is that correct?

[Tr. 879] "Answer: That is correct.

"Question: The aircraft type refers to Martin 404 in this case, correct?

"Answer: Correct."

Mr. MURRAY: Page 2264.

"Question: Did Captain Richard Dennis, on July 2, 1963, have less than 250 hours' command time in a Martin 404?

"Answer: He did.

"Question: Would you refer back to Page 13:05:01 of the Mohawk Operations Manual?

"Answer: Yes.

"Question: Section 2 relates to the first officers, correct?

"Answer: That is correct.

"Question: And applies to Martin 404 aircraft?

"Answer: Yes.

"Question: Did that section, Section 2, state that first officers must have 900 total hours in Mohawk Martin 404 aircraft to fly in the left seat? In substance?

"Answer: In substance, yes.

[Tr. 880] "Question: Did First Officer John Neff meet the requirements of Page 13:05:01 of the Mohawk Operations Manual on July 2, 1963?

Mr. MURRAY: I was afraid you would come up with [Tr. 871] a suggestion like that.

The COURT: Would that be much of a chore?

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"Answer: That is correct.

"Question: And applies to Martin 404 aircraft?

"Answer: Yes.

"Question: Did that section, Section 2, state that first officers must have 900 total hours in Mohawk Martin 404 aircraft to fly in the left seat? In substance?

"Answer: In substance, yes.

[Tr. 880] "Question: Did First Officer John Neff meet the requirements of Page 13:05:01 of the Mohawk Operations Manual on July 2, 1963?

"Answer: No.

"Question: On July 2, 1963, was First Officer John Neff authorized to, by the Mohawk Airlines Operations Manual, occupy the left seat of a Martin 404?

"Answer: No."

.

[Tr. 881] Mr. GALIHER: Page 2265, Mr. Tait. I would like to read to you the next question, if you please.

"Question: Who had the responsibility for determining whether or not First Officer John Neff, on July 2, 1963, would be permitted to occupy the left seat of a Martin 404?

"Answer: The captain, ultimately."

Mr. GALIHER: Thank you.

Mr. MURRAY: Continuing on the same page, in view of this.

"Question: I am not sure what you mean by 'the captain, ultimately.'

"Answer: The captain has the ultimate responsibility.

"Question: To make that decision?

"Answer: Because it's always subject to the captain's discretion.

"Question: Would you explain your answer?

"Answer: Whether or not a first officer can occupy the left seat of any of our equipment, regardless of what his qualifications are, the [Tr. 882] ultimate decision as to whether or not he can occupy the seat rests with the captain.

"Question: Was Captain Richard Dennis, on July 2, 1963, authorized by Mohawk Airlines Operations Manual, Page 13:05:01, to permit First Officer John Neff to occupy the left seat of a Martin 404 aircraft that day?

"Answer: No, he was not."

.

Mr. GALIHER:

"Question: You mentioned in your answer it was subject to the captain's discretion, is that right?"

"Answer: That's correct."

* * * * *

[Tr. 883] "Question: What is V-1?"

"Answer: V-1 is the accelerate-stop speed for the airplane.

"Question: Could you put it in lay terminology?"

"Answer: It is the speed that the airplane can be accelerated to on the runway, and at that speed, at exactly that speed, should an emergency occur, for instance, an engine, the airplane can either be accelerated to V-2 speed on the remaining engine and be lifted off and climb out, or it can be brought to a stop on the remaining runway at exactly that speed.

"Question: Was there some method for computing the speed of V-1 for a particular airplane at a particular airport?"

"Answer: Yes.

"Question: What were the factors which went into the calculation of V-1 speed?"

"Answer: The factors that go into the [Tr. 884] calculation of V-1 speed are runway length, runway gradient, airport elevation, gross weight of the airplane, wind. That is all I can think of at the moment.

"Question: Pressure?"

"Answer: Pressure.

"Question: Temperature?"

"Answer: Didn't I mention temperature?"

"Question: I am sorry, if you did, I missed it. Temperature?"

"Answer: Yes.

"Question: Were the flight crews of Martin 404 aircraft required by company regulations to compute V-1 speed prior to take-off?"

"Answer: Yes.

"Question: How long did it take to compute V-1 speed generally?"

"Answer: A few seconds."

Mr. MURRAY: Page 2301, commencing at Line 20.

"Question: So that the V-1 speed for a Martin 404 aircraft taking off from Rochester and with a gross weight of approximately 43,000 pounds would have a V-1 speed of between 89 knots [Tr. 885] and 99 knots?"

"Answer: Yes.

• • • • •

"Question: Had you taken off from Runway 28 at Rochester prior to the accident?"

"Answer: Yes.

"Question: Within what range of time would a Martin 404, with a gross weight of approximately 43,000 pounds, attain V-1 speed?"

"Answer: Fifteen to twenty seconds."

Mr. MURRAY: On Page 2303, Line 9.

"Question: What significance, if any, did V-1 speed have, in relation to whether or not an aircraft could safely terminate the take-off?"

"Answer: I believe I already answered that at V-1 speed he has sufficient runway remaining to abort the take-off. At precisely V-1 speed.

"Question: At any time before an aircraft obtains V-1 speed, does the aircraft have the [Tr. 886] capability of safely aborting or terminating his take-off?"

"Answer: Absolutely."

• • • • •

[Tr. 887] Question: For an aircraft with a gross weight of 42,936 pounds, as reflected by Plaintiff's Exhibit 13-2, the flight manifest, what would be the approximate distance required to accelerate to V-1 for an airport with an elevation of 560 feet, as reflected by Plaintiff's Exhibit 51, for identification?

"Answer: Approximately 2,000 feet.

"Question: Those figures are for a Martin 404?

"Answer: That is correct.

• • • • •

[Tr. 889] "Question: So that for a Martin 404 aircraft taking off on a runway 5,500 feet in length, with a gross weight of approximately 42,936 pounds, the airport being 560 feet above mean sea level, would that aircraft be capable of aborting its take-off and stopping on the remaining portion of that runway in a safe fashion at any point before the aircraft traveled 2,000 feet from the start of its take-off roll?

"Answer: Yes."

• • • • •

[Tr. 890] "Question: In the same connection, did Mohawk Airlines, as of July 2, 1963, authorize [Tr. 891] or prohibit the crew of a Martin 404 aircraft from continuing to take off at a time when the aircraft had not accelerated to V-1 speed, and at that time the crew observes visibility from the cockpit of less than the applicable take-off minima?

"Answer: It would be prohibited."

• • • • •

[Tr. 893] The next reading will be from Plaintiff's Exhibit No. 12, for identification, which is Mr. McIntyre's deposition.

For background, Your Honor, Mr. McIntyre was the Dispatcher for Mohawk Airlines at Utica.

Page 1663, Line 5.

"Question: At the time of this accident, did you hold any licenses issued to you by any governmental authority?

"Answer: Yes, sir. I had the Aircraft Dispatcher's Certificate, Commercial Pilot's, Instrument rating,

Ground Instructor's Rating in Meteorology, Navigation, Aircraft."

Mr. MURRAY: And commencing at Line 23 on the same page.

"Question: Did you, on the occasions where you did perform a training function for flight crew members prior to the accident, give [Tr. 894] instruction concerning weather?

"Answer: Yes, sir."

Mr. MURRAY: Page 1666, commencing at Line 13.

"Question: Did that material that you did use for training crew members have in it an instruction that the best rule is to stay out of thunderstorms?

"Answer: My favorite expression is, the best way to fly through thunderstorms, is don't. Which is basically the same thing.

"Question: Is that the way you stated it to the pilots you trained?

"Answer: Yes, sir."

.

[Tr. 895] "Question: Rather than using the document in class, did you use the material contained in this document to instruct flight crew members prior to the accident with regard to thunderstorms?

"Answer: Let me say, I am sure I used material that's in here. I never specifically, I don't believe, went to this particular manual and used it for reference, say, for a particular class."

Mr. MURRAY: Commencing on Line 15.

"Question: I would like to refer you specifically to Page 61. On the left-hand side of that page, the first full paragraph on the page starts, 'Thunderstorm downdrafts.' Do you see that?

"Answer: Yes, sir.

"Question: The second sentence in that reads:

“ ‘The downdraft, however, continues below the base of the cloud and may constitute a serious flying hazard since significant downward speeds may exist at levels as low as 300 to 400 feet above the terrain.’

[Tr. 896] “Were you aware of that? Were you aware of that sentence or the substance of that sentence before the accident?

“Answer: Yes, sir.

“Question: Did you instruct your pilots prior to the accident in this regard?

“Answer: Yes, sir.

“Question: On the same page, in the lower right-hand corner, there is a section entitled, ‘Hail.’

“Do you see that?

“Answer: Yes, sir.

“Question: The first sentence of that is:

“ ‘Hail may be regarded as one of the worst hazards of thunderstorm flying.’

“Were you familiar with that provision?

“Answer: Yes, sir.

“Question: Did you instruct your pilots in this regard prior to the accident?

“Answer: Yes, sir.

“Question: Over on the next page, Page 62, toward the bottom, there is a section entitled, ‘Thunderstorms and Ground Operations,’ which [Tr. 897] runs over to Page 63, included therein is a ‘Figure 97.’

“Were you familiar with this portion of this Manual?

“Answer: Yes, sir.

“Question: The first sentence of that reads:

“ ‘The most important thunderstorm phenomenon likely to affect airplanes at the time of take-off or landing is the gusty surface wind associated with the out-flowing of the cold air from the downdraft.’

“Were you familiar with that?

“Answer: Yes, sir.

“Question: Did you instruct your pilots in that regard?

"Answer: Yes, sir.

"Question: A few sentences down there appears the following:

" 'The arrival of this outflow results in a radical and abrupt change in wind speed and direction. It is an important consideration in attempting landings and take-offs in advance of the arrival of a thunderstorm.'

[Tr. 898] "Were you familiar with that?

"Answer: Yes, sir.

"Question: Did you instruct your pilots in that regard?

"Answer: Yes, sir.

"Question: You considered that to be an accurate statement of one of the characteristics of a thunderstorm?

"Answer: Yes, sir.

Mr. MURRAY: Turning now to Page 1689, commencing at Line 11.

"Question: On July 2, 1963, were you on duty?

"Answer: Yes, sir.

"Question: At what time did you come on duty?

"Answer: Eight o'clock in the morning.

"Question: What were your duties that day?

"Answer: As Flight Dispatcher. General. Releasing, flight following, flights of Mohawk Airlines.

.

[Tr. 899] "Question: There was a Kansas City Storm Center that day which issued a tornado forecast that you were aware of?

"Answer: They issued a SIGMET, which indicated the possibility of tornadoes, yes.

"Question: Was that issued from Kansas City, the Storm Center?

"Answer: Yes, sir.

"Question: Was the document they issued that day on Service A a tornado forecast for Area 1?

"Answer: No, sir, it was termed a 'severe weather warning.'

"Question: 'Aviation severe weather warning'?

"Answer: Yes.

"Question: Was that aviation severe weather warning embraced within the term, 'forecasts'?

"Answer: I would call it such, yes."

Mr. MURRAY: Page 1750, commencing at Line 9.

"Question: I hand you Plaintiff's Exhibit [Tr. 900] 35, for identification, and ask you if you recognize it?

"Answer: Yes, sir."

Mr. MURRAY: Your Honor, if I might just interject here, this is this Kansas City Severe Weather Warning.

"Question: Did you see that document that day?

"Answer: Yes, sir.

"Question: What time did you see that document for the first time that day? Local time?

"Answer: I would guess, approximately 2:30.

"Question: Rather than a guess, is that the best of your recollection?

"Answer: Yes, sir.

"Question: Is this the Aviation Severe Weather Forecast that you mentioned previously as being issued from Kansas City?

"Answer: Yes, sir.

"Question: Did this Aviation Severe Weather Forecast apply to Area 1, as a tornado forecast?

"Answer: Yes, sir.

"Question: What information did this impart to you? [Tr. 901] "Answer: You mean the specific part saying, 'tornado forecast'?

"Question: The content of the message applicable to Area 1.

"Answer: The fact that over this particular Area 1 there was the possibility of scattered severe thunderstorms, hail, turbulence, and the chance of a tornado.

"Question: And surface gusts of 65 knots?

"Answer: Yes, sir.

"Question: Hail to one and a half inches?

"Answer: Yes, sir.

"Question: Extreme turbulence?

"Answer: Yes, sir.

"Question: Possibility of an isolated tornado or two?

"Answer: Yes, sir.

"Question: A few cumulo-nimbus clouds with maximum tops of 60,000 feet?

"Answer: Yes, sir.

"Question: And with regard to the location of this thunderstorm activity, what information did this document impart to you?

[Tr. 902] "Answer: This Area 1, covering along and 60 miles either side of a line from 60 south-southeast of Buffalo, New York to 50 north-northeast of Burlington, Vermont."

.

"Question: Where would 60 miles on either side of that line be in relation to Rochester?

"Answer: Rochester should fall within that 60 miles north of that line.

.

[Tr. 903] "Question: Mr. McIntyre, we hand you this Plaintiff's Exhibit 19-A, for identification, [Tr. 904] which bears your name and the time 2:53 p.m., and ask you if you recognize it?

"Answer: Yes, sir.

"Question: Did you formulate that message for transmission over the Utica teletype to various stations?

"Answer: Yes, sir.

"Question: That was issued at 2:53 p.m.?

"Answer: Yes, sir.

.

"Question: We have discussed earlier today the Kansas City Aviation Severe Weather Forecast, Plaintiff's Exhibit 35, for identification.

[Tr. 905] "Do you recall that?"

"Answer: Yes, sir.

"Question: I believe you had that document available at approximately 2:15 p.m. or so?

"Answer: Yes, sir, between 2:15, 2:30."

* * * * *

[Tr. 906] The COURT: Mr. Murray, I want you to think about this over the recess. I don't want you to argue the case but I think at this stage the Court would be assisted by a succinct statement of your contributory negligence position. You take much of this testimony that you have just put in as to the significance of thunderstorms and hail with respect to flying. It is evidence that goes both ways. The Defendant knew it and the Plaintiff knew it.

I am anxious to know what your theory is. Not an argument and not cases but what your theory of contributory negligence is so that as the proof unfolds I will be sure that I relate matters to your position. Because your pleadings—and quite proper pleadings—are naturally in general terms.

Mr. MURRAY: All right, Your Honor.

The COURT: We will take a ten-minute recess.

(Whereupon a short recess was taken.)

Mr. MURRAY: In furtherance of the Court's comments prior to the recess, may I make this statement, and I will give amplification if it is not adequate.

The decedent was trained by Mohawk Airlines to be a pilot and to exercise judgment and safety. He was going [Tr. 907] to be carrying fare-paying passengers in commercial aviation. The Civil Air Regulations applicable at that time provided that no one should operate an aircraft in a careless or reckless manner so as to endanger the lives or property of others. Among his training was training

concerning avoiding taking off in thunderstorms and training in aborting take-offs when it was deemed advisable.

The nature of the contributory negligence is this: That he failed to use the proper standard of care to demonstrate care for his own safety that an average, prudent and reasonable man would use, that is, to sit in the left seat and to undertake the flight when apparently he had not satisfied himself that it could be undertaken safely.

The second aspect of the contributory negligence is in failing to abort the take-off when—as our deposition testimony which we will read later this afternoon will show—it could have been done.

The weather was out there for all to see. The storm was sitting right on the field. Any failure by the Government to advise him that the storm was on the field I think is entirely irrelevant in view of, one, the radio communication from the cockpit advising thunderstorms moving in from the west; and secondly, the testimony of the passengers, which [Tr. 908] we will read, that they saw the storm just sitting out there on the runway.

A thunderstorm of this magnitude can be seen by all, and especially should be seen by a person such as a pilot who has a complete duty to ascertain the weather and keep himself current on the weather.

We feel the abort technique is particularly applicable here. It is undisputed that at all stages up to 2,000 feet down that runway he could have aborted; and the evidence clearly will show, without contradiction, that any wall of water he ran into was prior to reaching that point down the runway while he was still on the runway and he could have aborted.

The COURT: How do you fit Captain Dennis' responsibility for this flight into your theory of contributory negligence?

Mr. MURRAY: Your Honor, admittedly, the captain is in command of the aircraft. However, we believe that the only reasonable interpretation that can be given to the relationship between the captain and the flight crew members with him is that only his directions which comport with the Civil

Air Regulations and good and safe operating practices are those which must be followed under any particular [Tr. 909] circumstance. That here both the positioning of Neff in the left seat and assuming the evidence of the Plaintiff in the best light that the captain directed the take-off, I believe Captain Brown succinctly pointed out that he would take certain steps to reconsider the whole thing.

I can analogize to this extent:

The COURT: I don't want to get into a long discussion, but what the Court has in mind on this aborting technique, for example, if there is ever a situation where the committee problem interferes with the operations of the plane, if the two men got to arguing 800 feet down the runway as to whether it would be a good idea to stop it and some signal from Neff and the other man said, let's go, that is the kind of problem that your aborting aspect of your case presents in the Court's mind.

We don't want to argue the whole case now. I understand it is two things: It is the aborting and it is the fact that he was at this point on notice of the weather conditions by the information they did have and what they could see. That is, in general terms, the crew was on notice.

Mr. MURRAY: That is correct, Your Honor.

The COURT: And, therefore, they were in a position to take the precautions they have been trained to take.

[Tr. 910] Mr. MURRAY: Your Honor, may I make one more comment with respect to the relationship between the captain and the first officer, that being a brief one to this effect? The servant is responsible to the master to perform the acts directed by the master and the master is responsible for those negligent acts committed by the servant. However, the servant, himself, can still be negligent, too, and that is why we believe that in this case contributory negligence can be found against First Officer Neff if he did not exercise proper care for his own safety.

He wasn't under physical compulsion. That is the point I want to make. Although Captain Dennis might have been negligent in undertaking the flight at all, I think First Officer Neff can similarly be negligent in participating in it or failing to carry it out properly.

The COURT: I understand your position and I appreciate your coming right to the point. I am not holding you to your precise statement of it. I simply wanted to be guided as we went along.

[Tr. 913] (Whereupon the following excerpts were read from the Deposition of Robert B. Thorp, Mr. Silverman reading the questions and Mr. Tait reading the answers.)

"Question: Now, you mentioned in your direct examination that you were not required or obligated, or had no duty to issue weather information of—concerning visibility and ceiling unless the visibility and ceiling was below certain minimums. You recall that?

"Answer: Yes.

"Question: You did mention the minimum?

"Answer: Yes.

"Question: What were the minima?

"Answer: The ceiling would have to be below three hundred feet, or the visibility below one mile.

"Question: And by 'ceiling and visibility,' are you referring to the official ceiling and [Tr. 914] prevailing visibility?

"Answer: Yes.

"Question: Now, sir, would you refer to Plaintiff's Exhibit No. 47, for identification, the Air Traffic Control Procedures Manual, Section 431.6. Is that the section that relates to three hundred and one?

"Answer: Yes, it does.

"Question: Now, 431.6, of course, does not [Tr. 915] mention the figures 300 and one mile, correct?

"Answer: That's correct; it does not mention it.

"Question: And in Section 431.6, Subdivision B, there are provisions that relate to IFR flights?

"Answer: Yes.

"Question: And was Mohawk 112 on IFR flight?

"Answer: Yes.

"Question: And that section pertains to visibility less than that published as the highest take-off minimum for the airport?

"Answer: That is correct.

"Question: And what was the highest published take-off minimum at the airport at the time of the accident?

"Answer: A ceiling of three hundred.

"Question: Feet?

"Answer: Feet, or one mile.

"Question: Or one mile——

"Answer: One mile visibility.

"Question: Now, what was the next reportable value below one mile visibility?

[Tr. 916] "Answer: Seven-eighths.

"Question: So that the official prevailing visibility would have to be seven-eighths of a mile for you to be required or obligated or under a duty to disseminate the ceiling and visibility to a pilot, is that correct?

"Answer: That is correct.

"Question: Now, 431.6 contains a provision with regard to the time you issue that information, is that correct?

"Answer: Yes.

"Question: Namely, prior to commencement of take-off?

"Answer: Yes.

"Question: And in the case at hand, I believe it was your testimony that when you said, 'All right,' to Mohawk 112, he then started onto Runway 28 and commenced his take-off, is that correct?

"Answer: That is correct.

"Question: So that with regard to Mohawk 112, you had a duty and an obligation to issue visibility and ceiling information to that [Tr. 917] aircraft when the official ceiling and prevailing visibility was below three hundred feet or one mile at a time prior to the commencement of the take-off of Mohawk 112?

"Answer: That is correct.

"Question: And prior to the commencement of the take-off for 112 would be prior to the time he started onto Runway 28, is that correct?"

"Answer: That is correct."

"And was the official ceiling and visibility below three hundred feet and one mile visibility prior to the commencement of the take-off of Mohawk 112 by entering Runway 28?"

"Answer: No, it was not."

"Question: Did you at any time prior to the accident receive any report of runway visibility from any person?"

"Answer: No, I did not."

[Tr. 919] "Question: And just to summarize it for the record, the four p.m. message has prevailing visibility of eight miles, the four-forty-two message has prevailing visibility of eight miles, the four-fifty-two message has visibility of—prevailing visibility of half a mile, and the four-fifty-nine message has prevailing visibility of two miles, is that correct?"

"Answer: That's correct."

[Tr. 920] "Between four-forty-five and the time you issued Mohawk 112 a take-off—a revised take-off clearance, the final take-off clearance, and added—adding to that, two messages later, the last message from you, 'All right,' what was the lowest visibility that you personally observed?"

"Answer: The prevailing visibility as I observed it in that time interval was not less than four miles."

Mr. MURRAY: Page 3096, commencing at the top of the page.

"Question: And between those two take-off clearances, did you look in all directions of the horizon?

"Answer: Yes, I did.

"Question: And during the interval, Mohawk 112 was still in the run-up area?

"Answer: Yes.

"Question: Now, when you looked in all directions during this interval of time, will you tell us exactly what you were able to see?

"Answer: Looking east, I could see the hospital.

"Question: How far away was the hospital?

[Tr. 921] "Answer: Three miles.

"Question: Was it clear in view?

Answer: Yes.

"Question: And——

"Answer: Looking southwest, I could see the WHAM Tower.

"Question: How far is that away?

"Answer: That is three miles.

"Question: Was it clearly in view?

"Answer: Yes. And looking south of me, towards the Thruway, that was—visibility was very good down that way.

"Question: The Thruway runs generally east-west in relation to your position in the Tower?

"Answer: Yes.

"Question: And it runs, of course, a number of miles?

"Answer: Yes.

"Question: Was the Thruway fully visible to you?

"Answer: Yes. I believe the Thruway is five miles, and that was visible.

"Question: At its closest point?

[Tr. 922] "Answer: Yes.

"Question: And was that fully visible?

"Answer: Yes.

"Question: And at its closest position, what compass point would that be from the Tower?

"Answer: That would be south.

"Question: Due south from your position in the Tower?

"Answer: Yes.

"Question: And looking out west towards the Thruway, were you able to see a considerable distance above eight miles?

"Answer: No.

"Question: Now, could you see eight miles in that direction toward the Thruway?

"Answer: No.

"Question: What was the nature of the visibility between due——

"Strike it.

"You mentioned the WHAM Tower was southwest?

"Answer: Yes.

"Question: It was about three miles away, [Tr. 923] and it was clearly visible?

"Answer: Yes.

"Question: So that you could see past WHAM?

"Answer: Yes.

"Question: Could you estimate how far past?

"Answer: I would say at least a mile.

"Question: And did you look southeast?

"Answer: Yes.

"Question: Did you see the Thruway?

"Answer: I don't believe we have a visibility check-point on the Thruway southeast. We do south, but—I could see very well southeast.

"Question: It was very clear?

"Answer: Yes.

"Question: And it was more than four miles?

"Answer: Yes.

"Question: Did you look northwest during this interval of time from your position in the Tower?

"Answer: Yes, I did look northwest.

[Tr. 924] "Question: Was there a check-point northwest?

"Answer: Yes, there is. There's Brooklea Tower which is two and a half miles northwest.

"Question: And could you see the Brooklea Tower?

"Answer: No, I did not see the Brooklea Tower.

"Question: And that was two and a half miles away?

"Answer: Northwest, that's correct.

"Question: Now, on the basis of those observations, during this time interval between the two take-off clearances, what was the prevailing visibility?

"Answer: Four miles.

"Question: By virtue of that, was it four miles if you could see less than two and a half miles to the northwest and you could barely see the Terminal Building north of the Tower?

"Answer: I still had one-half of the horizon where I attained or surpassed four miles in view.

.

[Tr. 925] "In looking northeast towards Mohawk 112 during this interval, was there some check-point beyond Mohawk 112?

"Answer: Yes, Kodak.

"Question: How far away was Kodak?

"Answer: Four miles.

"Question: Did you see that?

"Answer: I saw Kodak.

"Question: Clearly in view?

"Answer: Yes.

.

[Tr. 926] "Question: And that running from northeast to WHAM, southwest, was more than half of the horizon, is that correct?

"Answer: From northeast to southwest?

"Question: From the check-point of Kodak.

"Answer: Yes.

"Question: In the northeast, all the way around, clockwise, to WHAM, was that more than half of the horizon circle?

"Answer: Yes, it was.

[Tr. 927] "Question: So then you could barely see, during this time interval, the Terminal Building which was three-quarters of a mile away, did you say?"

"Answer: That's correct."

"Question: And you could not see the Brooklea Tower which was two and a half miles [Tr. 928] away?"

"Answer: That's correct."

.

Mr. SILVERMAN: The storm, Your Honor, was coming from the northwest and he did ask him about that; and he said visibility was reduced in this area.

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[Tr. 929] "And looking out west towards the Thruway, were you able to see a considerable distance above eight miles?"

"Answer: No."

"Question: Could you see eight miles in that direction towards the Thruway?"

"Answer: No."

[Tr. 930] (Whereupon the following excerpts were read from the Deposition of Joseph L. Bettinger, Mr. Silverman reading the questions and Mr. Tait reading the answers.)

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[Tr. 931] "Question: So then, in summary, we can say that prior to July 2, '63, you had at least 2,000 hours of flying experience."

"Answer: Yes."

Mr. SILVERMAN: Page 8, Line 16.

"Question: Is it fair to say, Mr. Bettinger, that prior to July 2, 1963, you flew in and out of Rochester a considerable number of times as a pilot?"

"Answer: Yes."

.

[Tr. 933] "Question: Could you see the Terminal?

"Answer: Yes.

"Question: And about how far away was that from your position, approximately?

"Answer: Well, the distance just looking at the map is—it must be almost a mile away, then.

"Question: What would you judge the visibility to be at that time generally throughout the horizon?

"Answer: At that particular period, I would estimate the visibility to be four miles.

"Question: Is that a conservative estimate?

"Answer: I would say so, yes.

"Question: Now, after leaving Page, did there come a time when you entered your car to embark on this trip?

"Answer: Yes."

* * * * *

[Tr. 934] "Question: All right. Now, what I would like to do is, using this pencil, red pencil which I hand you and making dashes on the map, show us the path that you took with your car until the time you came to your first stop."

Mr. SILVERMAN: The witness complies.

"Question: And at the point where you stopped, would you, using this blue pencil, place an X."

Mr. SILVERMAN: And the witness complies.

That exhibit is before the Court and has been appropriately marked.

Page 19 at Line 13.

"Question: Okay. Now, you have indicated, Mr. Bettinger, that you stopped on the service road where you have placed a blue X. Could you tell us what prompted you to stop at that time and that place?

"Answer: Well, I saw the Mohawk flight coming off the apron in front of the Terminal Building, and

it was taxiing down the taxistrip [Tr. 935] which is right adjacent to the service road.

"Question: And what taxistrip is that labeled on this map, just for the purpose of pointing it out?

"Answer: Number 2.

* * * *

"Question: Just so the record will be straight, Mr. Bettinger, what prompted you to stop your car when you saw this Mohawk aircraft?

"Answer: Well, my, I believe, curiosity as a pilot was somewhat aroused seeing this weather which to the north of me was building up; it seemed like we were going to get into something quite severe. Seeing the aircraft taxiing down, I wanted to see what the pilot's reaction would be. I wasn't in a great hurry to get where I was going, so a few minutes more or less didn't matter."

* * * *

[Tr. 936] "Question: Were you in your car while you observed this aircraft?

"Answer: Yes.

"Question: Was there any particular reason why you were in your car?

"Answer: Because it was raining.

"Question: Could you for us estimate how far from the end of Runway 28 you were when you stopped your car?

"Answer: I would guess it at approximately [Tr. 937] three hundred feet.

"Question: Now, I want you to think back to the time when you first stopped the car and you saw the Mohawk airline taxiing before the time that it actually reached the runway. Could you tell us how far down Runway 28 you could see at that time?

Mr. SILVERMAN: Mohawk's attorney says:

"Assuming he looked.

"Question: Did you look?

"Answer: Well, I, of course, was looking at the whole field.

"Question: Well—

"Answer: And I could see visibility unrestricted to the west, unrestricted in the sense, say, you could see beyond the airport. To the southwest visibility was good. It was, in other words, over four miles in the direction of the Control Tower. To the north is the area, the northerly quadrant, north and northwest, that it was dark and visibility there was probably a mile.

* * * * *

[Tr. 938] "Question: So although you couldn't physically see the runway, it was your judgment that looking down that runway you could see the point where the north-south runway was located?

"Answer: Definitely, yes.

"Question: At that time, again, while Mohawk airliner was still taxiing, could you see the Terminal Building?

"Answer: Yes."

Mr. SILVERMAN: Line 18.

"Question: And having now looked at the map a little closer and more carefully and reconsidered, have you come to a different [Tr. 939] conclusion as to the approximate distance from your point to the Terminal?

"Answer: Yes.

"Question: Would you give us that approximation?

"Answer: It would appear that it is approximately 2,000 feet."

Mr. SILVERMAN: Page 27, commencing at Line 2.

"Question: During the period of time that you were in this stopped position and observing whatever you were observing, did you take note of whether the runway lights on Runway 28 were on?

"Answer: They were on."

* * * * *

[Tr. 940] "Question: In layman's terms, then, Mr. Bettinger, you observed Mohawk begin to take off?"

"Answer: Yes.

"Question: And did you observe or watch it continue its take-off?"

"Answer: Yes.

"Question: And what did you observe?"

"Answer: I observed a normal take-off.

"Question: To what point?"

"Answer: To the point—

"Question: All of it?"

"Answer: No, no. To the point that it disappeared into a weather condition. As I say, it would be a wall of water, until it disappeared from my sight."

[Tr. 941] "Question: Now I want you to think back now to the point when the Mohawk Airliner reached the runway. Would you describe the weather conditions as you observed them at that point? Had the visibility changed?"

"This is just as the Mohawk Airliner entered the runway.

"Answer: I would say the raining was more severe than earlier. It was building up. The visibility still was fairly good in the direction of the Control Tower which is southwest. Westerly you could still see, I would say, a distance equal to it, say, the Baltimore & Ohio railroad tracks. To the north it was—visibility was still bad.

"Question: Can you recall whether at that time when Mohawk reached the runway whether you could still see the Terminal or not?"

"Answer: I believe you could.

"Question: Can you recall whether at that point you could still see where the north-south runway would be located down [Tr. 942] Runway 28?"

"Answer: Yes."

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"Answer: Well, in a general term, overhead was

very dark and just like we were sitting below [Tr. 943] a thunderhead, which I have passed under on occasion. They are very dark and dangerous looking.

“Question: Well, based on your piloting experience, would you say that there was a storm in progress at the field at that point in time?”

* * * * *

“Answer: It was to the point of climax. I [Tr. 944] mean, a storm was about to strike.”

* * * * *

(Whereupon the following excerpts were read from the Deposition of Mary Ann Miara, Mr. Silverman reading the questions and Mr. Tait reading the answers.)

* * * * *

[Tr. 945] “Question: Approximately what time did [Tr. 946] Flight 115 park at the gate at Rochester?

“Answer: At 3:42.

“Question: Did that flight terminate at that time at that airport?

“Answer: Yes, it did.

“Question: That is, Flight 115?

“Answer: Right.

“Question: Did you then deplane with Mr. Dennis and Mr. Neff?

“Answer: Yes, I did.

“Question: Where did the three of you go?

“Answer: Inside Operations.

* * * * *

[Tr. 950] “Question: At the time you closed the staircase, what did you hear, if anything?

“Answer: Before I closed the door.

“Question: How long before?

“Answer: I guess about two minutes before I closed the door.

"Question: What did you hear?

"Answer: I thought I heard some thunder.

"Question: Did you hear thunder, to the best of your recollection?

"Answer: Yes.

"Question: Did you hear one clap of thunder or more than one clap of thunder?

"Answer: I don't know for sure.

"Question: Was the thunder loud?

"Answer: Yes.

• • • • •

[Tr. 951] "Question: Did you indicate anything to Mr. Murray or Mr. Curtis in any way?

"Answer: Yes.

"Question: What did you indicate?

"Answer: I sort of shuddered when I heard the thunder."

Mr. SILVERMAN: Page 742, at the bottom, please.

"Question: The scheduled departure time of 4:45, what does that relate to, the time it leaves the gate or the time it takes off?

"Answer: The time it leaves the gate.

"Question: To the best of your recollection, did Mohawk 112 depart from the gate on time or [Tr. 952] after 4:45?

• • • • •

"Question: Thereafter, when you left the cockpit, and started back to check your passengers, the aircraft started in motion?

"Answer: I believe it did."

Mr. SILVERMAN: Page 757, toward the bottom.

"Question: What did you see when you looked out the window of the aircraft after leaving the cockpit?

"Answer: I saw the windshield wipers going back and forth.

• • • • •

[Tr. 953] "Question: What did you see on the windshield, if anything?

"Answer: I believe rain."

Mr. SILVERMAN: Page 759, the upper third of the page.

"Question: Did you hear any rain?

"Answer: Yes.

"Question: Would you describe what you [Tr. 954] heard at the time you looked out the cockpit window from your position at the rear?

"Answer: It was raining very hard.

• • • • •

[Tr. 955] "Question: What did the rain sound like?

[Tr. 956] "Answer: Sounded like heavy stones being thrown at the airplane to me.

• • • • •

"Question: Were you aware of the aircraft coming into a take-off position at some time during that day at Rochester?

"Answer: Yes.

"Question: And before it reached the take-off position, did you make this observation you have described concerning the windshield wipers and the heavy rain?

"Answer: Yes.

"Question: And the stones?

"Answer: Yes.

• • • • •

[Tr. 961] (Whereupon the following excerpts were read from the Deposition of Dr. Lee L. Davenport, Mr. Murray reading the questions and Mr. Tait reading the answers.)

Mr. MURRAY: Commencing on Page 4, Line 16.

"Question: Will you, for the record, state your full name, please.

"Answer: Lee L. Davenport.

• • • • •

"Question: What is your occupation today?

"Answer: I am an executive with General Telephone and Electronics Laboratories, Inc."

• • • • •

[Tr. 962] Question: Did you fly to the Rochester-Monroe County Airport frequently prior to July 2nd, 1963?

"Answer: Fairly frequently.

"Question: Could you give me some idea of how frequently?

"Answer: I would suppose perhaps four or five times a year, at least."

Mr. MURRAY: Dropping down to Line 23.

"Question: Could you tell us where you were on July 2nd, 1963, during the early part of the day?

"Answer: Yes. I was at Batavia, New York, at a plant of the Sylvania Electric Products organization, which manufactures home electronic equipment.

"Question: Where did you go from Batavia?

"Answer: From Batavia I was driven by car with several other people to the airport at Rochester, arriving at Rochester Airport probably [Tr. 963] about four o'clock, I would suppose, 4:15 perhaps."

Mr. MURRAY: Page 8, commencing at the last line, Line 25.

"Question: While you were standing at the gate, did you have occasion to either observe outside the gate or outside the window as to the weather conditions?

"Answer: Yes. We certainly could see the weather conditions.

"Question: Did you make such an observation of the weather at that time?

"Answer: Yes, I did. The weather was increasingly cloudy."

Mr. MURRAY: Dropping down to Line 17.

"Question: If you will, will you describe what weather conditions you observed at that time?

"Answer: We noticed that the weather was getting increasingly cloudy, that a wind was beginning to blow, that it appeared that rain might start to fall even before the plane's departure was announced.

"In fact, as I recall it, Mr. Elwell said [Tr. 964] something to the effect that maybe we are going to get wet while we are boarding this plane."

Mr. MURRAY: Turning to Page 10, commencing at Line 19.

"Question: What you are about to relate to us as to the weather observations with respect to the time you were walking from the gate to the aircraft?

"Answer: Exactly.

"Question: Will you go ahead?

"Answer: At that time, which was the first opportunity we had to be outdoors—I guess I should use 'I'—had to be outdoors, speaking for myself.

"Question: Please.

"Answer: We could definitely detect that there was a gusty wind starting to blow.

"No rain was falling and it was becoming increasingly overcast.

"Question: Was it more overcast than when you were standing inside?

"Answer: Yes, it certainly was."

[Tr. 965] Mr. MURRAY: Page 16, commencing at Line 15.

"Question: From your position where you were sitting on the aircraft on that day, could you observe the cockpit or flight deck, however you wish to describe it?

"Answer: Yes. I could observe the left-hand seat in the cockpit, the seat which I understand the pilot normally occupied.

"Question: Do I understand from your answer that you could not observe the right-hand seat?

"Answer: That is correct. I could not see the right-hand seat."

Mr. MURRAY: Turning to Page 18, Line 16.

"Question: During the time that the aircraft was taxiing to the runway, did you during that time have occasion to look out the window?"

"Answer: Yes, indeed.

"Question: During such observation, did you take any notice of the weather conditions?"

"Answer: Yes. During that period the few heavy drops of rain that had started to fall earlier were continuing. The wind was continuing [Tr. 966] to blow in a gusty fashion and I can recall seeing a flight attendant near the Terminal Building whose clothes were blowing around quite violently from the wind in the area at that time."

• • • • •

"Question: If you would now, using this blue pencil, can you draw a circle at the point where you made your observations down the runway?"

[Tr. 967] "Answer: Yes."

• • • • •

"Answer: The plane was moving at the time I looked out the window and down the runway. While it was stopped, I could not see down the runway without looking past Mr. Beare and back, and that was an awkward position for me to have looked, and I did not do so.

"Once the plane began to turn, though, the runway came into view as I looked at right angles to the plane out of the right window."

Mr. MURRAY: The next page, starting at Line 16.

"Question: Would you describe for us what you observed down that runway at this time and at that place?"

"Answer: As I looked down the runway, I [Tr. 968] could see what appeared to be a wall of rain. It was of sufficiently high intensity so that it obscured all vision beyond a few feet within the wall.

"Question: Could you approximate for us where along that runway you posted the wall of rain?"

"Answer: I estimate that the distance was perhaps half or a little less of the length of the runway and that the wall appeared to me to be roughly north and south and appeared about at the distance of the Terminal Building from the end of the runway.

"Question: When you say that it was north and south, you mean if you think of the wall of rain as a straight line, the line was oriented north and south?

"Answer: Exactly, though I had not seen a map of the airport before this one, it is my impression that the wall of rain appeared perpendicular to the runway and ran down—was at that time about even with the Terminal Building."

[Tr. 969] Mr. MURRAY: Page 34, please, Line 4.

"Question: When the aircraft first came onto the runway, did you at any time in and around then have an opportunity to look in the cockpit of the aircraft?

"Answer: Yes, I did, and I could see at that time the pilot in his seat."

Mr. MURRAY: Line 17.

"Question: Did you at that time observe any rain?

"Answer: Yes. At that time the rain which had been sprinkling lightly but in heavy drops was increasing in frequency and was somewhat heavier but not obscuring visibility to any degree in comparison with the obscuration that occurred at the point of the wall of rain."

Mr. MURRAY: And then turning to the next page, commencing at Line 23.

"Question: During the take-off, did you observe the weather conditions out your right window?

"Answer: Yes, I did.

"Question: What did you observe at that [Tr. 970] time?

"Answer: Well, as the plane accelerated and began to pick up speed, the visibility out the right-hand window of the ground appeared to be quite satisfactory until we hit the wall of rain.

"At that time a tremendous heavy rain was falling. The visibility was appreciably lower and looking out the right window, I could see no sign of the Terminal Building or any other buildings on the right. I could see the ground passing the window quite clearly, however."

Mr. MURRAY: Line 24 at the bottom of the page.

"Question: Could you tell me whether you in the aircraft met this wall of rain at approximately the same point you had observed it down the runway when the aircraft was making its turn onto the runway?"

"Answer: Yes. As far as I could tell, the point where we hit the wall of rain was almost identical with the place where it appeared to [Tr. 971] be while we were making the turn.

.

"Question: Did you have some association in your mind with a geographical point on the airport where this wall of rain was located?"

"Answer: Yes, I do have an association.

"I have a clear recollection of an OMNI antenna on this airport at, I would estimate, two-thirds or three-quarters of the way down that runway. It is on the left-hand side of that runway which we are now identifying as Runway 28, and that OMNI antenna was not visible during the turn which we made at the end of the runway to start our take-off."

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[Tr. 972] Mr. STEELE: I hate to interrupt you. I think on the last answer there were two words in our copy that appear to be different than what you read.

Mr. MURRAY: I have the original signed by the witness where he made inked changes and I anticipated that you did also.

Mr. STEELE: No. I don't.

The COURT: That is an inked change he made?

Mr. MURRAY: Yes, Your Honor.

Mr. STEELE: It is the exact opposite of what it says.

The COURT: That is probably why he changed it.

• • • • •

"Question: If you would, would you describe for us in chronological order the movements of the aircraft during its take-off as best you can recall it?

"Answer: As the plane picked up speed to take off, I recollect its picking up speed rather slowly.

[Tr. 973] "It was a fully-loaded airplane, probably not overpowered in any case . . ."

Mr. MURRAY: I want to point out here that "this" is crossed out and "any" is inserted and initialed by the witness on the original.

"... and at the time we struck the wall of rain, it is my impression that the wheels were still on the runway.

"It was probably just leaving the runway after we entered the wall of rain and got to a height of only a few feet, five, ten, fifteen feet before the first turbulence struck the aircraft.

"Question: Would you describe to us what you observed with respect to that turbulence?

"Answer: This turbulence is different from the kind of turbulence which one feels at normal flying, at high altitude, which is more of an up and down feeling.

"This turbulence had a tendency to rotate the aircraft about its longitudinal axis forcing first one wing down and then the other wing down and I had no sensations of the whole [Tr. 974] aircraft being buffeted up and down as an entity.

"The first turbulence we struck forced the left wing down fairly sharply and it was followed by the right wing going down, not quite as sharply, and then the plane leveled out and this was at a rather low altitude, as I have said, probably between five and fifteen feet, so the angle of tilt . . ."

Mr. MURRAY: "Turbulence" was the word used in the original and it is crossed out and the word "tilt" is used.

"... was not great."

Mr. MURRAY: Turning to Page 41, commencing at Line 8.

"Question: After this first turbulence, as you have referred to it, could you relate to us what happened next?

"Answer: The plane recovered. The power continued and the take-off continued and until the plane had reached a somewhat higher altitude.

Looking out through the window on my right, which I was doing at that time, I would estimate [Tr. 975] that the height was perhaps seventy-five feet, maybe 100 feet, and a second violent turbulence struck the plane. This may indeed have been the third turbulence.

"I don't recall exactly how many of these shakes there were, but this was the most severe of all and the left and right wings again went back and forth.

"The pilot attempted to recover and finally there was a tremendous twist to the left and the left wing went down and it continued until the plane—until I lost sight of the ground out of the right window, which means to me that the attitude of the aircraft was probably more than forty-five degrees left wing down.

"At that point, the left wing tip hit the ground."

Mr. MURRAY: Turning to Page 46, commencing at Line 4.

"Question: Doctor, do you recall the height of that OMNI antenna?

"Answer: The OMNI antenna, I would estimate to be about ten to fifteen feet high on top of [Tr. 976] a small square building, which of itself is probably ten or twelve feet high."

.

The COURT: We will come to a pause at this stage. Let me ask a couple of questions about that deposition. Was he a claimant against Mohawk?

Mr. MURRAY: I will be frank with you, Your Honor. [Tr. 977] I do not know because the deposition does not reflect whether he had any injuries or not.

The COURT: Do you know, Mr. Galiher?

You see, the Court has a problem, not seeing the people, of determining credibility and reliability as witnesses.

Mr. GALIHER: It is my belief that he was. I will double-check this and advise Your Honor tomorrow.

The COURT: Were some of his colleagues involved?

Mr. GALIHER: I believe everybody on this plane was a claimant, Your Honor. I will, however, give you the exact information.

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[Tr. 986] (Whereupon the following excerpts were read from the Deposition of Charles V. McAdam, Jr., Mr. Silverman reading the questions and Mr. Tait reading the answers.)

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"Question: For the record, will you state your full name, please.

"Answer: Charles Vincent McAdam, Jr.

"Question: Your home address today?

[Tr. 987] "Answer: Hillside Road, Greenwich, Connecticut.

"Question: What is your age, sir?

"Answer: Forty-two.

"Question: By whom are you employed?

"Answer: By the McNaught Syndicate.

"Question: Do you have a title?

"Answer: Executive Vice-President."

Mr. SILVERMAN: Page 5, Line 19.

"Question: Do you recall, sir, where you were on July 2nd, 1963?

"Answer: Two hours before I boarded the airplane, I was in Buffalo, New York, with Mr. Connors, who is publisher of the Buffalo Courier Express."

Mr. SILVERMAN: Page 6, please, Line 19.

"Question: How did you travel from Buffalo to Rochester?

"Answer: In a rented car.

"Question: Did you drive yourself?

"Answer: Yes.

"Question: What did you do when you arrived in the Rochester area? Where did you go first?

[Tr. 988] "Answer: Right to the Avis garage, which is a mile from the airport or a half to three-quarters of a mile, to check the car in and then be driven to the airport.

"Question: From the Avis Rent-A-Car place, someone drove you to the Rochester-Monroe County Airport?

"Answer: Correct.

"Question: While you were driving from the Avis-Rent-A-Car place to the airport, did you have occasion to observe the weather conditions at that time?

"Answer: Not only then, but all the way from Buffalo I observed the weather conditions.

* * * * *

[Tr. 990] "Question: I am particularly interested in what weather conditions, if any, you observed on the ride from the Avis Rent-A-Car to the airport?

* * * * *

"Answer: Well, the observations were dark clouds moving ominously through the sky and high winds."

Mr. SILVERMAN: Page 8 at Line 7.

"Question: Could you estimate for us approximately what time that was that you were driving from the Avis Rent-A-Car place to the airport?

"Answer: I would say fifteen minutes before the flight was to depart, which would be like 4:30."

[Tr. 991] "Mr. SILVERMAN: Page 9, at Line 24.

"Question: During the course of time that you were walking from the Terminal to the aircraft, did you make any observations of the weather?"

"Answer: Even more dark and more ominous than it had looked fifteen minutes before with still heavy black clouds moving rapidly.

"Question: At that time did you observe any wind?"

"Answer: Still the same amount of wind, yes.

.

[Tr. 992] "Question: Can you recall where you were sitting?"

"Answer: Next to the last seat in the back on the left.

"Question: Were you on the window or the aisle side?"

"Answer: Aisle side."

Mr. SILVERMAN: And at Page 14, please, beginning at Line 11.

"Question: Did you have anything obstructing your vision into the cockpit?"

"Answer: No. I was very interested in the weather and very interested in seeing how they would fly in such weather, so I loosened my seatbelt and leaned out over the seat into the aisle so I could look, you know, with an unobstructed view down the aisle into the cockpit."

[Tr. 993] "Question: Did there come a time when the aircraft proceeded onto the runway?"

"Answer: It started right out onto the runway, turned and kept moving.

"Question: Were you observing the pilots at that time?"

"Answer: All the time. From then on."

Mr. SILVERMAN: Page 18, Line 9.

"Question: Did you observe anybody manipulating those throttles?"

"Answer: I did, but I don't know which man did it.

"I only know that had I wanted to know, I would have watched whether it was the left hand or the right hand, but the only thing I do know is when the throttles are pushed forward, they were pushed and left alone and never touched again."

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[Tr. 994] The COURT: Just a minute.

This man's testimony seems to be extraordinarily general. Isn't it required practice in all aircraft that at least one member of the crew keep his hand on the throttle at all times during take-off? I have never seen a plane take off—

Mr. SILVERMAN: I would say that that is so, Your Honor, yes.

The COURT: So his testimony that the man pushed the throttle forward and sat back and watched it go—Are you contending that—

Mr. SILVERMAN: No.

The COURT: It just doesn't seem to be plausible in terms—he says that they pushed them forward and never touched them again.

.

[Tr. 995] "Question: Could you observe out the windshield of the cockpit?

"Answer: We had gone but a matter of one hundred or two hundred feet and were barely moving when it started to rain. Of course, it was obvious to see it on the windshield and it began to rain so hard that the pilot reached up and pulled on the—pulled out the little wiper switch. The wipers started but had no effect on the windshield at all, the rain was so heavy.

"Question: Did you observe him put on the windshield wipers during the time the [Tr. 996] aircraft was taking off or was this prior?

"Answer: The aircraft had started down the runway and there was no rain on the windshield. After one or

two hundred feet, it just poured; just opened up and maybe the plane was doing twenty-thirty miles an hour, and then he pulled the wiper switch.

"Question: How would you describe the intensity of that rain?

"Answer: As though two huge firetrucks were pouring water on the windshield with hoses."

Mr. SILVERMAN: Down to Line 13.

"Question: You say during the entire take-off your attention was directed into the cockpit, is that correct?

"Answer: That is correct.

"Question: Would you describe for us what you observed both with respect to what occurred in the cockpit and with respect to the motions of the aircraft from the time you first started taking off?

"Answer: As I told you, the throttles [Tr. 997] were set and never touched again. The wipers were then turned on after the plane had gone maybe one hundred, two hundred feet, still going slowly but picking up speed.

"The motors never sounded as though they had full power, possibly due to the fact that the wind was severe outside and the rain was pounding the airplane.

"The intensity of the rain increased as the speed of the aircraft increased along the runway. Then it sounded as though pebbles or stones or something were all over the airplane, apparently hail, and still the plane continued down the runway and before I realized it, the pilot, the one on the left, had pulled the wheel back and we were off the ground.

"It seemed much too early to me, but after we were off just a matter of a second or two, the whole plane shook as though someone were trying to tear the wings off the ship.

"Obviously, I was quite frightened.

"Then the pilot pulled the wheel back and the plane started up higher.

[Tr. 998] "Question: Again, would you qualify for the record you say, 'pilot'—

"Answer: This is definitely the man on the left now. I know. I can explain why in a moment.

"I know it was the man on the left doing it because the fellow on the right didn't touch the wheel. There were no hands on the wheel on the right.

"The plane is now climbing at a rather steep angle and the shaking or vibrations stopped, but the plane is stopped, but the plane is now pitching a little bit.

"Question: When you say, 'pitching,' would you, for the record, describe in words what you mean?

"Answer: Moving right to left, right to left.

"Question: Do you mean the nose was moving right to left or it is not the nose moving right to left?

"Answer: The wings.

"Question: Moving down?

[Tr. 999] "Answer: Down and then back up.

"Question: Will you continue?

"Answer: The plane, as I guess in my mind, climbed to maybe two hundred or three hundred feet, and then turned to the left and it is now what appeared to be a right angle or ninety-degree angle with the left wing down.

"At that point, the pilot on the right grabbed the wheel, the co-pilot grabbed the wheel, the man on the right, turning the wheel hard, together.

"Both of them now were holding the wheel, each holding the wheel.

"The plane turned over all the way to the level position and right through it all the way to the right wing again assuming the same angle, only this is with the right wing down.

"Question: When you say, 'same angle,' what do you mean?

"Answer: The ninety-degree angle. They turned 180 degrees from the left wing down all the way around to the right wing down.

[Tr. 1000] "Question: Continue.

"Answer: Still both of them trying to control the ship. They turned the wheel again and the plane went

all the way around back to the first position, another 180 degrees, with the left wing down again.

"A moment or so later I could hear and feel a vibration that the wing had touched the ground, the left wing.

• • • • •

[Tr. 1001] "Question: Having straightened out on the runway, was there any time when you were on the runway when you did look out the window?"

"Answer: No, I never looked out the window again after the plane started down the runway.

"I watched the pilots."

• • • • •

[Tr. 1003] "Question: And also it is my recollection you said you were looking out the window for some part of the time?"

"Answer: I was looking out the window most of the time prior to when they started down the runway to take off."

Mr. SILVERMAN: At Line 14.

"Question: Could you give us your best estimate as to the visibility at the time you looked out that aircraft window?"

"Answer: I think the best way to tell you about the visibility is in walking to the airplane, the plane seemed dark and musty.

"It looked like the plane needed a paint job. That is how dark it was that day. The plane did not shine or look bright or clean as it normally does. It looked like it was all full of soot, it was so dark."

Mr. SILVERMAN: Page 58, at Line 5.

"Question: So that the rain increased from the time you first saw it to a period as you proceeded down the runway ten times in [Tr. 1004] intensity?"

"Answer: Yes.

"Question: When had that peak of ten times of your first observation reached its peak?

"Answer: When the plane was not going more than sixty miles an hour, eighty miles an hour.

"Question: On the runway taking off?

"Answer: Yes.

"I was under the impression then, because of the rain's severity, that they were going to cut the motors and pull the throttles back and stop the motors and just taxi around and go back to the hangar.

"That is what I thought they were going to do, frankly, but I am not supposed to say this."

Mr. SILVERMAN: We have no further reading from this deposition.

The COURT: Is this man a claimant against Mohawk?

Mr. GALIHER: Yes, sir. He had his shoulder broken and he was burned in the accident.

[Tr. 1005] ROY EDWARD WYETT was called as a witness by the Defendant and, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION.

By Mr. MURRAY:

Q. Would you please state your full name.

A. Roy Edward Wyett.

Q. And your address, Mr. Wyett?

A. 1002 Baltimore Road, Rockville, Maryland.

Q. By whom are you employed?

A. By ESSA, Weather Bureau.

Q. How long have you been employed by the Weather Bureau?

A. Since October of 1947.

Q. What is your present position?

A. My present position is Chief of the Data Acquisition Branch, System Plans and Design Division.

Q. As of July 2, 1963, what was your position with the Weather Bureau?

A. At that time my title was Chief, Surface Observation [Tr. 1006] Unit, Observation and Station Facilities Division.

Q. And what would be the nature of your duties in that position?

A. I had general responsibility for seeing that the Surface Observational Program of the Weather Bureau was run in accordance with policies and directives laid down by top management.

Q. Did that include the installation of equipment at airports?

A. It included responsibility for designating equipment to be installed, yes, sir.

Q. Would this include visibility equipment, such as transmissometers?

A. Yes, sir, it did.

Q. Referring specifically to July 2, 1963, did the Weather Bureau have a standard policy for the activation and commissioning of new visibility equipment?

A. Yes, sir.

Q. Now, was that policy in writing?

A. Yes, sir, it was.

Q. And to whom was it disseminated?

A. I believe the address and dissemination thereof would have been to all Weather Bureau Field Offices.

[Tr. 1007] Q. Can you describe for us the Weather Bureau's standard policy as it related to transmissometer equipment, and referring specifically back to July of 1963.

A. Yes. We divided the procedure into three phases: The first was the equipment installation, and this usually involved installing different parts at different points in time but was meant to include up to the time the last piece of the particular set of equipment was installed.

The second phase was termed, I believe, quality assurance, and during this phase we required the observers to observe from the equipment but not to use it in official observations.

The last stage was commissioning of the equipment after the electronics technician had certified it met proper cali-

bration procedures and the operational people had determined that it was performing in a quality sense as required.

Q. Could visibility equipment be used for official observations prior to commissioning?

A. No, sir, it could not.

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[Tr. 1008] Q. Can you please explain to me the various parts that you earlier mentioned of a transmissometer in general?

A. Do you mean of the transmissometer system, sir?

Q. Yes, of the entire transmissometer system.

A. In general it was divided into, I guess you would call it, three areas of instrumentation. The first was the sensor portion, which was located normally near the end of the runway. The second major portion would be that receiving and recording portion which was located in the Weather Bureau office. And the third part of the system would be the required read-out instruments to be placed in front of whoever was to utilize the equipment.

[Tr. 1009] Q. Which of those three stages, if any, were necessary prior to commissioning of the equipment by the Weather Bureau?

A. For purposes—at Rochester, all three must be installed.

Q. Do you know when the read-out equipment was installed at Rochester?

A. I don't know the exact date. I was at Rochester for the CAB depositions following the accident, and at that time was personally aware that they were not yet installed but had been received at the station and arrangements were being made at that time for their installation.

Q. Prior to the transmissometer being commissioned, can you tell me whether or not the readings appearing on the chart may be disseminated outside the Weather Bureau?

A. Did you say before commissioning?

Q. Correct.

A. They may not; not until after the equipment has been commissioned may they be used.

Q. After commissioning may the readings appearing thereon be disseminated outside the Weather Bureau?

A. Yes. As a matter of fact, they are absolutely requirement conditions under which they must be utilized, [Tr. 1010] although there are cases in good weather, of course, where readings are not transmitted.

Q. Assuming commissioning for my next question, if I may, sir, I will ask you to assume a transmissometer has been commissioned, to what extent is the transmissometer recorder chart accurate from a time standpoint?

A. Well, this is pretty variable. It depends on a number of things. The most completely dependent one is the time since the most recent time-check which the observer makes. It can vary by as much as—I have seen them as much as eight to ten minutes off over a period of a few hours.

I think that the Weather Bureau uses a figure that the standard deviation is in the neighborhood of two minutes.

Q. Would that be plus or minus two minutes?

A. That is correct.

Q. After commissioning, does the transmissometer read-out produce, from the Weather Bureau standpoint, the official weather, the prevailing visibility at that time?

A. Could I have that question again?

Q. After a transmissometer has been commissioned, does the read-out constitute, under Weather Bureau procedures existing in July 1963, the official prevailing visibility?

[Tr. 1011] A. Read-outs from a meter calibrated in terms of runway visibility or runway visual range may be used in that respect. Not direct read-out for transmission, however.

The COURT: That doesn't answer the question.

The WITNESS: I am sorry, I didn't understand the question.

The COURT: I am sure you didn't.

If the man in the Tower thinks it is one thing and the transmissometer reads differently, the man in the Tower still, as I understand it, has the responsibility to report the runway conditions that he sees; or is it correct that if the transmissometer states it is two miles visibility and the

man thinks it is less than a quarter mile, he goes ahead and clears the plane?

The WITNESS: No, sir, that last is not correct. Your first assumption is correct. The man can override the value of the transmissometer.

The COURT: So it is not the official determination on the field of visibility?

The WITNESS: No.

By Mr. MURRAY:

Q. Of prevailing visibility?

A. No, not unless the observer of the movement says [Tr. 1012] it is so.

The COURT: If they both agree, then it is.

The WITNESS: Yes, sir.

The COURT: Right.

Mr. MURRAY: No further questions.

CROSS-EXAMINATION.

By Mr. GALIHER:

Q. Mr. Wyett, did Rochester-Monroe Tower Weather Bureau Station come under your supervision?

A. Not in the sense of direct supervision with me being responsible for the activity of that station directly, no, sir.

Q. Well, to what extent was it under your supervision, since you were the Chief of the Surface Observation Unit of the Observation and Station Division at that time in Washington, D. C.?

A. In the sense that I promulgated the instructions for equipping stations and taking observations and issued through the Chief of the Weather Bureau these instructions to the regional offices and the field stations for them to implement; and in the sense that quality control reports of inspections of these stations were forwarded to me for evaluation as to how that station was performing.

[Tr. 1013] Q. Will you tell me if a gentleman named John S. Williams was working for the Weather Bureau and at

the Weather Bureau Station at Rochester-Monroe Airport on the day of the incident that we are inquiring into?

A. I believe that is correct, yes, sir.

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Q. Now, did you also have in the employ of the United States Weather Bureau and attached to the Rochester-Monroe Airport at the time of the accident a gentleman by the name of Claude Chapman?

A. Yes, sir.

Q. And was he likewise at the Weather Bureau Station in Rochester on the date of the incident?

A. From testimony, I believe he was, yes, sir.

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[Tr. 1016] Q. Do you know approximately how long before July of 1963 the transmissometer was installed at the Rochester Airport?

A. No, I don't know exactly how long it was, sir.

Q. May I refer to your testimony again at the Civil Aeronautics Board hearing, Page 688.

“Question: Do you know approximately how long ago the transmissometer was installed at the Rochester Airport?

“Answer: To the best of my knowledge, the authorization for installation was received in April of 1959.”

Were you asked that question and did you answer as I have read?

• • • • •

[Tr. 1017] Q. It was operating, was it not, and operating properly on July 2, 1963?

A. I do not know.

Q. Were you asked this question, on Page 688 of the Civil Aeronautics Board hearing:

And this follows the last question and answer just asked of you.

"Question: Do you know whether it was operating and operating properly on July 2, 1963?"

"Answer: From examining the transmissometer record which is part of this exhibit, I firmly believe the transmissometer was operating correctly on that date."

Were you asked that question and did you give that answer?

A. I did.

Q. Mr. Wyett, you inspected the transmissometer record of the Rochester instrument as of July 2, 1963, did you not?

A. At the CAB hearing, yes, sir, I believe I did.

Q. Were you satisfied concerning your examination of the exhibits with respect to the transmissometer, exhibits which, I might add, are in evidence here, as you know, having [Tr. 1018] been sitting in the courtroom the last several days, I believe—were you satisfied as the result of your examination of the record and a consideration of all of the other facts and circumstances with respect to the transmissometer records and recordings that there was a period of time on that afternoon when the visibility, as far as runway visibility was concerned, was reduced to approximately one-eighth of a mile for at least a two-minute period?

Mr. MURRAY: I object unless it is clear whether he is going to be interpreting the transmissometer trace or whether he knows of his own personal knowledge.

The COURT: I take it the question is directed to his examination of the trace.

Mr. GALIHER: Yes, sir.

Mr. MURRAY: I have no objection then.

May the witness see the exhibit, Mr. Galiher?

Mr. GALIHER: Certainly, sir.

May I have Plaintiff's Exhibits 28 and 29 delivered to the witness, Your Honor.

(Whereupon the exhibits were submitted to the witness.)

The WITNESS: May I have the question again, please, sir?

[Tr. 1019] The COURT: Will you read the question, Mrs. Watson.

(Whereupon the pending question was read by the reporter.)

The WITNESS: That is a very hard question to answer with an emphatic, yes, or, no.

May I have the Court's permission to answer the way I believe the question needs to be answered?

The transmissometer measures the extent to which the visibility along its path length, which in this case is five hundred feet, is reduced. It assumes that conditions are reasonably uniform throughout and being reasonably uniform throughout, then says the value of transmission may be converted to a path length-of-runway visibility corresponding to that indicated by that value of transmission.

Since that is true and since I am aware from testimony and from examining the weather records that evening, I have no reason to assume that the visibility was in fact uniform throughout the length of that runway that day. The best I can say at this point in time, I am convinced the transmissometer was correctly indicating the reduction in transmission to the level of less than seventeen per cent at that particular time, which would have converted to a [Tr. 1020] value of one-eighth of a mile visibility had the visibility indeed been uniform.

The COURT: And what two minutes?

The WITNESS: It is not quite a two-minute period. It starts from the time on this trace of approximately 3:53 to 3:55 and that would be Eastern Standard Time.

By Mr. GALIHER:

Q. You have heard the testimony of Mr. Crow concerning—

A. No, sir, I have not.

Q. You have not heard his testimony?

A. No, sir.

Q. Is it not a fact that that transmissometer tracing in front of you records a visibility of less than one-quarter

mile, well inside the range of one-eighth of a mile for at least a two-minute period at the time, Eastern Daylight Time 4:47-4:48?

A. No, sir, I cannot say that is true. It seems to me I would have to have calipers to check it off, but I would say it is definitely less than a two-minute period—close but less.

The COURT: Now, Mr. Witness, if the Court's notes are correct, Mr. Crow stated that at 4:47 the visibility was [Tr. 1021] more than four miles on the transmissometer, and at 4:48 there was an abrupt drop to .053, which is in the neighborhood, I understand, of around an eighth of a mile.

The WITNESS: That is correct.

The COURT: What do you read this transmissometer as saying as of 4:48?

The WITNESS: If you mean 4:48 exactly, sir, I would have to have a pair of calipers against which to check off this time between the ten-minute intervals.

It is my very distinct impression, from what I see in front of me, that it was some few seconds after 4:48, I would guess 4:48-1/2, roughly, that it was at that low point.

The COURT: That was the low point?

The WITNESS: Yes, sir.

The COURT: And do you confirm that at 4:47 or about that it was in the neighborhood of four miles?

The WITNESS: That is correct.

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[Tr. 1022] Q. Now, there was a test, was there not, done approximately fourteen minutes after or in around 4:64, which reflects a trace on the transmissometer record in front of you?

I may be in error as to that time and I don't want to indicate that it was, if it turns out to be the contrary. My understanding was it was sometime approximately fourteen minutes after 4:50, or somewhere in there.

Am I correct as to that?

A. There is an obvious zero reference check on this chart at between 4:07 and 4:08 p.m.

Q. That would be——

A. Eastern Standard Time.

Q. Yes, sir. And the purpose of that check was to determine if the transmissometer was operating properly, was it not?

A. The purpose of that check is to determine if this [Tr. 1023] recorder is recording properly what the transmissometer sensor is sending.

Q. And it checked out as recording properly, did it not?

A. It checks out that the recorder, itself, is functioning properly, yes, sir.

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REDIRECT EXAMINATION.
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[Tr. 1024] The COURT: So around 1955, give or take a year or so, there was a fairly well established view in your agency that these were useful, reliable, workable devices to aid in the problems of airport control. Is that a fair statement?

The WITNESS: When properly used with the qualified observer checking their readings, yes, sir.

The COURT: Oh, yes, that was the assumption.

The decision, I take it, to put this particular unit in at Rochester was made in 1959, according to your testimony, is that right?

The WITNESS: That is correct. That is when the decision was made to do it.

The COURT: What explanation can you give to the Court as to why your agency didn't activate this sooner, if it was an established device, a device that was shown to work well? Why should it take four, five years to use it after you start to install it?

The WITNESS: I cannot state at this time, sir, when we started installing. The date I gave I believe is [Tr. 1025] the date that it was authorized to be installed. This would have required buying it, a lot of things taking place after that time.

The COURT: More than a year?

The WITNESS: Yes, sir, it would—it almost would certainly require in excess of one year.

I can give you further answer to your question concerning Rochester specifically, sir.

The COURT: Yes.

The WITNESS: This was because of a change in policy requested by the FAA after the assignment of the transmissometer to Rochester.

Prior or at the time the assignment was made, the assignment was made primarily upon traffic count at the airport. In the early '60's we began converting from runway visibility to runway visual range at the FAA's request and the RVR at that point in time became for practical purposes the sole landing minimum at major airports.

FAA requested that we reallocate equipment for these higher priority airports where we provide much more safety than we were providing at airports like Rochester. Rochester having minimums at that time of three hundred foot [Tr.1026] and three-quarter mile visibility did not come under the new criteria for priority installations; and it was simply put back in time for its receipt of the read-out equipment so we could utilize that read-out equipment at higher priority airports.

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RECROSS-EXAMINATION.

By Mr. GALIHER:

Q. You did commission this one, however, on or about September 1, 1965, did you not, right after this accident had happened?

Mr. MURRAY: I object to the comment, "right after this accident happened."

The COURT: It is an obvious fact that it was right after it happened.

Did you?

The WITNESS: It was approximately that time. I am not

aware—it was sometime after the CAB hearings. I believe that was in October. So it was following October of [Tr. 1027] that year.

Mr. GALIHER: Your Honor, that unequivocally is reflected in the answers to interrogatories previously introduced into evidence. Thank you, sir.

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CLAUDE W. CHAPMAN was called as a witness by the Defendant and, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION.

By Mr. MURRAY:

Q. Would you please state your full name.

A. Claude W. Chapman.

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Q. And what is your occupation?

A. I am a meteorological technician for the United States Weather Bureau.

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[Tr. 1029] Q. As of July 2, 1963, what was your occupation, please?

A. I was meteorological technician for the United States Weather Bureau at Rochester.

Q. Where at Rochester would you normally perform your duties?

A. At the airport.

Q. What are the duties or what were on July 2, 1963 the duties of a meteorological technician?

A. At that time—they are quite varied. I was responsible for taking and disseminating surface aviation observations, briefing pilots who felt it was necessary to consult me for flights that they had planned, making general forecasts for use by the public. In other words, the things that you

hear on television, radio and read in the newspaper, I made those forecasts at Rochester.

[Tr. 1030] Q. Now, were you officially on duty on July 2, 1963?

A. Yes, I was.

Q. And what time did you come on duty?

A. 4:00 p.m.

Q. Just tell us generally where the Weather Bureau facilities are located at the Rochester Airport.

A. They are located in a hangar on the south side of the airport.

Q. And would this be on the ground floor of the hangar?

A. Our office was on the ground floor, yes, sir.

Q. Please tell us what you did when you entered on duty on July 2, 1963.

A. Well, number one, I knew that a severe weather forecast was in effect because I had heard it on the radio at home. So the first thing I did when I got to work was to familiarize myself with the contents of that severe weather warning which had, incidentally, been disseminated to all interested parties before I came to work.

Q. Now, what is a severe weather warning? The severe weather warning of which you speak here, what would it be? Can you just tell us generally?

A. Are you speaking generally or of this specific weather warning?

[Tr. 1031] Q. This weather warning that you familiarized yourself with when you arrived at four o'clock on July 2.

The COURT: I have that in front of me, don't I?

The WITNESS: Yes.

The COURT: That is Defendant's Exhibit 6, and the second sheet in your No. 10.

Is that right?

MR. MURRAY: May the witness see it so we can tie it in to this as what we are referring to?

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[Tr. 1032] Q. Is that correct, Mr. Chapman, the second page?

A. Yes, sir.

Q. Now, the form in which you would see that is not in the typed form that you have before you, is that correct?

A. That is correct.

Q. What would it look like when you were looking at [Tr. 1033] it at the Weather Bureau Station that day?

A. It would be a piece of yellow teletype paper.

Q. Is that how it is received in the facility in Rochester?

A. Yes, sir.

Q. Is there a teletype machine in the Weather Bureau office?

A. Yes, there is.

Q. Is that known as a particular Service or Circuit and can you explain to me how it works?

A. It is Service A.

* * * * *

[Tr. 1034] Q. What information comes over it?

A. O.K., that is better. Aviation—information that is important to aviation, observations, forecasts, amended forecasts, warnings.

This Service A—well, I think I can say strictly aviation interests.

* * * * *

[Tr. 1035] Q. Now let me hand you Defendant's Exhibit 6, for identification, and ask you if you recognize that; and will you state what it is?

A. Well now, this is not the original either.

Q. I know it is not the original. It is a copy. But can you tell me whether that is the Kansas City Severe Weather Warning to which you were referring?

A. It seems to be.

Q. All right. Now can you tell me from looking at that when it was issued?

A. No, because this isn't the original. You don't have the time on it.

Q. All right.

There are various areas reflected in that, is that correct?

A. That is right.

Q. Which of those areas would relate to up-state [Tr. 1036] New York?

A. Area No. 1.

[Tr. 1038] By Mr. MURRAY:

Q. The Aviation Severe Weather Forecast before you refers to severe thunderstorms, is that correct?

A. That is correct.

Q. What are the characteristics of severe thunderstorms within the Weather Bureau's meaning?

A. It can almost mean what the forecast says because that would be severe thunderstorms.

It is a thunderstorm that is characterized by strong shifting winds, both at the surface and aloft, almost always accompanied by hail. Surface winds that would exceed at least 35 knots on the ground.

Q. Does the Weather Bureau have different categories of thunderstorms?

A. Just two.

A. Two? Is severe one of them?

A. No, it is heavy—a thunderstorm or a heavy thunderstorm.

Q. All right.

The expression, "extreme turbulence," is used in there. Can you tell me what that means from a Weather Bureau standpoint?

A. Ah, yes. Extreme turbulence is turbulence that would, number one, render an aircraft uncontrollable at [Tr. 1039] times, usually for brief periods, but this isn't necessarily true that brief is important. And also it could cause structural damage to the aircraft.

[Tr. 1040] Q. Mr. Chapman, let me ask you this: When to the best of your recollection did you see the Kansas City Severe Weather Warning on July 2, 1963?

[Tr. 1041] A. Immediately upon arriving at work.

Q. Did you read it at that time?

A. Yes, I did.

Q. Can you tell me what you did next in chronological order with respect to your duties at the Weather Bureau on that day?

A. Well, chronologically, I didn't have any specific sequence of duties that I had to do. My first responsibility was to acquaint myself with the weather situation which did exist.

Q. And after you did——

A. Which I did.

Q. After you did that, what did you do?

A. Well, the first thing I did when I came on duty, as I testified before, I knew that this severe weather warning was in effect. I familiarized myself with the package; and when I say, "package," that is the manner in Rochester in which a severe weather situation is handled.

Q. Would that be a package of documents to which you refer?

A. It includes a map on which we draw the area which is going to be affected by this forecast. It includes the forecast, itself. It includes a telephone check-list of [Tr. 1042] people that we call to warn of the situation.

This is the first thing that I did.

Q. Now, did there come a time shortly after you came on duty that day when you heard thunder?

A. Yes—not shortly after but——

Q. Sometime thereafter?

A. That is right.

Q. And once you hear thunder, from the Weather Bureau standpoint, is there anything you are required to do?

A. That is right. It is considered that a thunderstorm is in progress at your station and you are required to take a special weather observation and transmit it.

Q. Now, when you heard the thunder, where were you located?

A. I was in the—well, actually, when I first heard the thunder, I was just outside the Weather Bureau office.

Mr. MURRAY: May the witness have the WBAN forms which are Exhibit 33 and Exhibit 22.

(Whereupon the documents were submitted to the witness.)

By Mr. MURRAY:

Q. Now, by referring to those exhibits, Mr. Chapman, can you tell us when you heard thunder?

[Tr. 1043] A. At 1540, which would be 4:40 Daylight Saving Time.

Q. At 4:40 local time.

A. All right. You then made some entries on the WBAN form?

A. Yes, I did.

Q. Did you proceed to take an observation?

A. I did, that is correct.

Q. Tell me now just exactly what you did.

A. Well, I went outside the office. We had a complete overcast, which I estimated to be 5,000 feet, in the absence of any marks on my ceilometer, which measures the height of the base of the clouds above the ground. Visibility was still very good and in my opinion it was eight miles.

Q. How did you go about determining what the visibility was?

A. We have known visibility markers. They can be buildings; they can be trees or lines of trees, oil tanks, and so on and so forth. In other words, things that we know what their distance is from my point of observation.

Q. All right. Where is your point of observation or where was it on July 2, 1963 from which you would take visibility observations?

[Tr. 1044] A. It would be just a few feet outside the office door, just to the north of our office.

Q. Is this the procedure you followed on July 2, 1963?

A. That is right.

Q. What did you arrive at as the visibility at that time?

A. Eight miles.

Q. Now, at what time would you have been conducting this visibility observation?

A. At what time?

Q. Yes.

A. Well, it would have to be about between 4:40 and 4:41.

Q. 4:40 and 4:41?

A. That is right.

Q. After making the entries on the WBAN form, did you do anything else with respect to the observation?

A. Yes, I entered on Telautograph for dissemination for aviation interests on the field that did subscribe to Telautograph.

Q. Now, will you refer to Exhibit 22, which is, I believe, before you, and let me ask you if that appears to be a Telautograph slip and the information which you inserted [Tr. 1045] on it?

A. Yes, it does.

Q. Now, at what time would this have gone out on the Telautograph?

A. I finished this transmission at 1543.

Q. Which would be 4:43?

A. That is right.

Q. Now, did you send it out on the Service A teletype?

A. No, sir, I did not.

Q. Can you explain why not?

A. Because the collection sequence, the latest one before the previous hour on Service A starts at forty minutes after the hour. I didn't finish this observation until forty-two. So the sequence collection was already over with. I could have not; I did not.

Q. What do you mean by the sequence collection? How is that done? How would you——

Strike the question.

How would you prepare your special observation for transmission on Service A?

A. I would go in to the teletype and I would type on a keyboard which would produce a tape, which I would put into a transmission unit, which is an automatic triggering unit. Then everyone on the sequence that we are on has their own—[Tr. 1046] it goes in order. In other words, Buffalo is first, then Rochester and then Syracuse, and so

on and so forth. And the triggering station is Cleveland.

They send a tape through; they call your call letters; if you have something in the unit to go, it goes.

Q. So at or about twenty minutes before the hour, the Rochester teletype is called, and if you don't have a tape on at that time, you are passed by?

A. That is right. Roughly twenty after and twenty minutes to the hour is when this triggering sequence starts.

Q. Is there any way to insert it yourself without the triggering sequence?

A. No, sir.

Q. All right. Now, after you sent out the special observation on Telautograph, can you tell me what you then did?

A. After I sent this out?

Q. Yes.

A. As I stated before, I was aware of the situation that was approaching the station and from that point on, once a thunderstorm had gotten close enough to Rochester to produce thunder, then from that point on, I was concerning [Tr. 1047] myself with watching the weather.

However, at one point during the period a Navy pilot came in requesting a weather briefing, and I did brief him.

Q. Now, I notice from the examination of the WBAN form that the thunderstorm started at 1540, which was when, the first time you heard thunder, is that correct?

A. That is right.

Q. Now can you tell me the first time you observed rain at the station?

A. It was during the period when I was briefing this Navy pilot that I referred to previously. Using what I saw myself and also a recording instrument which does record precipitation, I said that I—precipitation began at 1548.

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[Tr. 1048] Q. Now, did you enter the precipitation that you noticed on the WBAN Form 10-B which is before you?

A. Yes, I did.

Q. Commencing when and ending when, if you will, please?

A. Well, precipitation—we are talking about rain falling, right?

Q. Right.

A. It started at 1548 until 1722.

Q. 1722 local time would be what, please?

A. 6:22 p.m., Daylight Savings Time.

Q. Now, did there come a time when you noticed other precipitation besides rain?

A. Yes, we had a period of hail.

[Tr. 1049] Q. A period of hail?

A. That is right.

Q. When did the hail start, according to your records?

A. That would be at 4:50 until 4:55.

Q. All right. Now, did you make that entry on the WBAN form?

A. Yes, I did.

Q. 10-B.

Now, after you briefed the Navy pilot, can you tell me what you can recall of the sequence of events that followed?

A. Yes. During the time that I—while I was or near the end that I got through talking to this Navy pilot, the siren on the roof of the Weather Bureau started, rain had started, the whole storm had started, as a matter of fact, so I left him and I went to the observatory, which is in the next room, and I called the Tower—we have a hot line between the Weather Bureau and the Tower—to ask why the siren was going off. They informed me of the accident.

Q. Someone from the other end, after you called the Tower, informed you of what?

A. That the accident had occurred, the Mohawk had crashed on take-off.

[Tr. 1050] Q. What else did you say to the Tower or the Tower say to you?

A. At the same time I knew I was going to have to take an observation, it was quite obvious, and I asked what their visibility was; and I was informed that it was one-half mile.

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Q. After you were advised by the Tower one-half mile, what if anything did you then proceed to do?

A. Then I went outside to take my observation.

Q. Why would you have to take an observation at that stage?

[Tr. 1051] A. Well, number one, I would have to take one because the accident had occurred.

Number two, weather conditions had deteriorated considerably, and I had to take an observation on the basis of visibility reduction.

Q. Visibility reduction from what to what?

A. Well, the last observation that I had taken, the visibility was eight miles. If it drops below three miles, I have to take an observation. If it drops below one mile, I have to.

Q. Was this another reason for the Special?

A. This was the reason for the Special. The reason I went outside to determine what the ceiling and visibility were.

The COURT: What Special are you talking about now, Mr. Witness?

The WITNESS: 1542. That Special was long gone by then.

Mr. MURRAY: Your Honor, I would be referring to the next Special, which would be the one following the accident at fifty-two.

The WITNESS: Oh, that's right.

The COURT: That is fifty-two.

[Tr. 1052] Mr. MURRAY: If I have the correct timing on that.

The COURT: Yes, that was the half mile visibility message on Telautograph.

What I am asking you is how you went about taking your visibility observation after the siren had rung and you had been advised by the Tower of the accident.

A. I went outside to observe the visibility markers [Tr. 1053] that we had in the vicinity of the airport.

[Tr. 1056] Q. All right.

Did the Weather Bureau office at Rochester have any means of registering wind gusts?

A. No, we didn't have a gust recorder.

Q. You didn't have a gust recorder?

A. No, sir.

Q. Did you have anything which would show you the speed of winds?

A. Yes, we had a direct reading wind speed indicator.

Q. When you say a direct reading, would this be a needle?

A. That is correct. When I say, direct reading, I mean in opposition to a recording instrument. In other words, you have to be looking at it.

Q. At the particular moment in order to get a reading?

A. That is correct.

Q. All right. Now, did you have occasion on the day of the accident at or around 4:48-9-or-50, to be viewing the gust meter?

A. Yes, I did look at the—this is an anemometer.

The COURT: The speed indicator—anemometer.

The WITNESS: O. K., speed indicator.

—while I was talking to this Navy pilot.

[Tr. 1057] By Mr. MURRAY:

Q. What if anything did the speed indicator reflect?

A. It was generally averaging around 25 knots, but it went briefly up to 40 knots, which would in my opinion be a gust, and then back to the 25 knot reading.

Q. Can you pin this down in point of time with reference to your—well, in any point of time?

Did it occur prior to the time you heard the siren?

A. Yes, it did.

Q. Can you tell me within how long before you heard the siren that you were briefing the Navy pilot and saw the gust?

A. It would be my opinion around forty-eight after the hour.

Q. Did you record that anywhere on the WBAN forms?

A. Yes, sir, I did.

Q. Can you——

Well, it is on there. Strike the question.

Mr. Chapman, are you aware that there was a transmissometer in operation on Runway 28 on July 2, 1963?

A. Yes.

Q. Under your understanding of Weather Bureau procedures in existence at that time, were you authorized [Tr. 1058] to disseminate what was reflected on the transmissometer chart as the official visibility?

A. No, sir.

Q. Was there a read-out meter in the Weather Bureau?

The COURT: There clearly wasn't a read-out meter. He clearly wasn't authorized to use it for dissemination to the public or for reporting purposes.

The question is, did he look at it and if so what did he see. That is the issue in the case.

By Mr. MURRAY:

Q. Did you have occasion to look at the transmissometer on July 2, 1963?

A. I did look at it on that date.

The COURT: You did not?

The WITNESS: I did.

The COURT: You did.

By Mr. MURRAY:

Q. Now tell the Court, when you looked at it and everything you can recall about looking at it and what it reflected.

A. Well, it is kind of hard to say when I did look at it and when I didn't look at it, because instruments in the Weather Bureau office are so arranged that a man [Tr. 1059] taking the observations has access to all of them at any time. And any time I turned around, I could have been looking at it.

The COURT: What was your practice? Did you check it as you went along?

The WITNESS: Well, this equipment was in the process——

The COURT: I understand all of that.

My question was, was it your general practice to check it as you went along?

The WITNESS: That is what I was trying to explain to you.

This equipment had been installed and it was in the process of going through a phase when it would be commissioned.

The COURT: Yes.

The WITNESS: Part of that phase was for the observer, when he had time, on occasion to look at it and compare its reading with what he saw visually. So this would be my practice.

The COURT: So the answer is, yes?

The WITNESS: That is right.

[Tr. 1060] By Mr. MURRAY:

Q. At or about the time you heard the siren, did you look at the transmissometer chart?

A. Yes, just before I left the office to go out and take my observation.

Q. And what, to the best of your recollection, did the transmissometer chart reflect?

A. It reflected a half mile visibility at that time, that agreed with the Tower's evaluation.

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Q. Between the time of 2042, when you had completed your visibility observation and arrived at eight miles, as [Tr. 1061] reflected by the Telautograph slip, and the time you heard the siren go off, did you perform any other visibility observations?

A. No, I didn't.

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Q. Between the hours of 4:00 p.m. local time and 5:00 p.m. local time on July 2, 1963, would you please tell us what

is the lowest prevailing visibility that you observed from the Weather Bureau Station at Rochester?

A. One-half mile.

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[Tr. 1062] CROSS-EXAMINATION.

By Mr. GALIHER:

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[Tr. 1063] Q. According to your testimony, after you had acquainted yourself with the weather situation, you called certain people and warned them of the severe weather forecast from Kansas City?

A. No, that is not my testimony.

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[Tr. 1064] Q. Did you call anyone after you got the forecast?

A. No, sir, I did not.

Q. I am sorry, I misunderstood you.

Can you tell the Court the set-up of the Weather Bureau Station at Rochester, the type of visibility that you have, how high you are above the ground?

A. Our office is on the ground floor. We are not off the ground at all.

Q. Can you tell us what windows you have in your station and which way they face?

A. We have windows facing north and windows facing east.

Q. When you came on duty on that afternoon, how many other persons were in the Weather Bureau Station with you after you came on duty, let us say, for the first half hour?

A. You mean the number of people that I was relieving, is that the question?

Q. Yes.

A. Four.

[Tr. 1065] Q. You mean that you relieved four people or you were one of four persons who came on at that time?

A. No, I relieved four people. Mr. Williams, the meteorologist in charge, who was due to leave at four, stayed until 6:00 p.m.; so I was not alone.

Q. Four other people did, however, leave, the previous shift?

A. Three other people did. Mr. Williams would have been the fourth, if he had left.

Q. Now, what part of the station did those three persons occupy and what were their duties, the three that left when you came on duty?

A. Well, it is hard to say what part of the office they occupied because everybody in the normal course of events, in doing the job, at one time or another on shift occupies every part of the building or of the office.

The people that I relieved were doing what I was doing on the day shift when I came to work on the evening shift.

Q. Can't you give us a brief outline of what those three people did on the day shift?

A. No, I can't, because I wasn't there.

Q. Well, if you were relieving them——

[Tr. 1066] A. That is right.

Q. —wouldn't you have some idea what their duties were?

A. I know what their duties were.

Q. That was the purpose of my inquiry.

A. Oh, I see. They were the same as my duties when I came on at four o'clock. This was to take observations, disseminate them—we have gone through this—make forecasts, disseminate those also, answer phones, talk to people, brief pilots. It is diversified.

Q. So when you went on, you took over three persons' jobs during your shift?

A. Yes.

Q. How much of your time were you required to observe conditions outside of the airport as compared with the examination and study of the various pieces of equipment that you had within your station?

A. Well, that is a hard question to answer, how much of my time or even what percentage of it. These are things that you have to do and you do each of them when they are—I don't want to say when there is an opportunity to do them, but—I am trying to think of the right phrase.

You have a job to do. It includes a number of [Tr. 1067] things to do, and how much time you spend on doing each one, I don't see how you could evaluate that.

The COURT: It depends on how many other things you have to do.

The WITNESS: And how many interruptions you have.

The COURT: And the fewer the people the more interruptions, is that right?

The WITNESS: That is correct.

By Mr. GALIHER:

Q. Isn't it a fact that it was impossible for you to perform the work of three people and to carry out the functions performed by those three persons on the earlier shift?

A. Well, number one, I wasn't doing the work of three people. On the day shift is when all the administrative details of the office are accomplished. This is one of the jobs which is done by the day shift which is not done by anyone working either the evening shift or the midnight shift. So I really wasn't replacing three people.

Q. Did you say that there were only two categories of thunderstorms in your direct testimony or did I misunderstand you as to that?

A. Two categories.

[Tr. 1068] Q. Is that correct?

A. That is right.

Q. Do you remember giving your deposition in the case of Breslau v. Mohawk Airlines?

A. I remember the occasion.

Q. And on Page 28 being asked this question:

“Were there three different categories of thunderstorms that the Weather Bureau used for descriptive purposes?

"Answer: Yes, there are.

"Question: What were the categories?

"Answer: Light or slight thunderstorm, moderate thunderstorm and heavy thunderstorm, which essentially means severe thunderstorm.

"Question: Was there some manual which discussed the details of the three kinds of thunderstorms you have mentioned?

"Answer: Yes. Circular N.

"Question: Were you at that time familiar with the definitions of the three types of thunderstorms?

"Answer: Yes, sir."

Do you remember being asked those questions and [Tr. 1069] answering that way?

A. Well, that was quite a while ago. I really don't remember of my own personal knowledge of being asked those questions. I wouldn't—

Q. Are the answers which you gave on this deposition which was given on November 19, 1964 correct?

A. No.

Q. Did you read this deposition over?

A. Yes, I went over it. It has been so long.

Q. You were represented at the time this deposition was taken, were you not, by a lawyer for the Government, Martin S. Wagner?

A. I could have been. I don't recall.

Q. And isn't it a fact that at the time of that deposition there were a number of other persons there from your office or the United States Weather Bureau?

A. Yes, there was.

Q. Mr. Wyett, who just testified, was there. Mr. George Yount was there from the Weather Bureau Regional Office, and Mr. Stanley Lacey, Weather Bureau Central Office, Washington, D. C.

The Court: Are you clear they were all there at the time the deposition was taken?

[Tr. 1070] Mr. GALIHER: That is what it shows, Also Present.

Mr. MURRAY: Objection. It is not Mr. Wyatt who testified that was there. It is another Mr. Wyatt.

Mr. GALIHER: Sam Wyatt, excuse me.

Also, John M. Williams, Meteorologist in charge Rochester Bureau; also Robert Noland, Weather Bureau Regional Office, New York.

By Mr. GALIHER:

Q. Weren't all those gentlemen there at the time your deposition was taken?

A. To the best of my recollection, that is correct, yes, sir.

Q. Did you make any effort to advise Mr. Wagner, your attorney from the Department of Justice, after you read the deposition, that this was not correct and that you wanted to change it?

A. No, I didn't.

Q. You read the severe weather forecast a few minutes before 4:40, did you?

A. What?

Q. Pardon me?

A. Not a few minutes before 4:40.

[Tr. 1071] Q. Pardon me, a few minutes before four o'clock. Excuse me.

A. O.K.

Q. You concluded at that time, did you not, that a thunderstorm was likely to hit the field, the airport sometime thereafter?

A. You mean the immediate geographical location of the airport?

Q. Yes, sir.

A. Thunderstorms cannot be forecast that precisely.

Q. When did you reach a conclusion that the thunderstorm would probably strike the airport on that afternoon?

A. Well, when I went on duty, after I familiarized myself with the contents of this severe weather warning, one of the tools that I did use for the progress of this situation—and it wasn't just one thunderstorm; it was a line of thunderstorms—was our Weather Surveillance Radar, and periodically I looked at the scope.

I wasn't the radar observer. Mr. Williams was doing that. I was using it strictly as one of my tools for future observations.

When the echoes that I considered might be thunderstorms were roughly within about ten miles of the [Tr. 1072] field, then I started taking precise visual observations and it was shortly thereafter that I heard the first thunder.

Q. What time did you determine the storm approximately ten miles from the field?

A. I do not know. I was not taking time measurements. This is strictly a tool, something that I walked into the room, looked at occasionally, and walked back out.

Q. You have mentioned radar. What type of weather radar did you have in your Weather Bureau Station?

A. It was known as WSR-3.

Q. Can you describe the type of radar that was?

A. No, I can't. I am not an electronic expert.

Q. You had worked, however, with the radar, had you not?

A. Yes, sir.

Q. For many years?

A. No, not many years.

Q. How long had the weather radar been in your station at the time of this incident?

A. Well, if you will accept an estimate, I would say five years.

Q. Yes, sir.

[Tr. 1073] A. But I don't know.

Q. And had you received any special training in the use of radar at the time of its installation?

A. Yes.

Q. And you had then worked with it yourself on different occasions during that five-year period?

A. That is right; I was a radar observer.

Q. Do you have any knowledge of the type of radar that was used in the Air Traffic Control Center at the airport at that time?

A. You don't mean Air Traffic Control Center, do you? You mean in the IRF room?

Q. Yes, sir, excuse me.

A. This is not a Control Center. It is a Surveillance Radar.

Q. Yes, sir.

A. That is an Aircraft Surveillance Radar.

Q. Can you tell us how that compares with the type of radar you had in your station?

A. Well, their radar—again, when I answer this question, I want it understood that I am not an electronics expert.

Their radar, its function is to identify aircraft, [Tr. 1074] in other words, pick up echoes from aircraft.

Our radar was to pick up condensed water particles, pick up echoes from condensed water particles, in other words, precipitation.

Q. With respect to the location of your building and your station, can you tell us where the IFR radar was located?

A. That was that? Respeak again, please.

Q. We have identified on the map the location of your station.

A. You mean my office?

Q. Your office.

A. O. K.

Q. And you had your radarscope within that office, did you not?

A. Yes.

Q. Now, where would the IFR radar be with respect to the location of your station, how close?

A. Are you speaking of their scope or their—

Q. First of all, their scope.

A. Their scope would be in the Tower which is—this is an estimate—roughly a hundred, 120 feet northwest of my office.

[Tr. 1075] Q. Now, where would your antenna be?

A. Our antenna was on an eighty-foot-high tower, just outside—well, it would be north, just outside the north wall of our office.

Q. Where would the antenna be for the Tower, if you knew its location?

A. The antenna for the Tower is on a building, that I

would estimate to be a one-story building, ten, twelve feet, whatever that would be, out on the airport probably about a half a mile north or north-northeast of my office.

Q. Do you know how high off the ground that would be?

A. No, I don't. As a matter of fact, I am getting into something I shouldn't be talking about because it is not my job to know how high their tower is.

Q. All right, sir.

Prior to your going out of the Weather Bureau Station after you had heard the siren, after the incident had occurred, had you gone outside the station and made any tests during the ten- or twelve-minute period before that time?

A. No, sir, I had not.

Q. How much of the time within the——

The COURT: Now, now, Mr. Galiher, I guess the [Tr. 1076] witness is confused.

I thought he said he took an observation and that he went outside and took an observation and that that is contained in the 4:42 Telautograph. He said he had to go out to do that and he observed the ceiling at 5,000, eight miles visibility and thunderstorms.

Now I want to be sure the witness understands what he is saying.

The WITNESS: I understand that. He interjected the time of ten to twelve minutes prior to the accident, which I did not take an observation.

The COURT: What time do you think the accident took place?

The WITNESS: Forty-nine.

The COURT: So that any time before thirty-nine would be ten minutes and 4:42 might fall in that gap.

The WITNESS: I am sorry, yes.

Mr. GALIHER: Yes.

The COURT: I am sorry, Mr. Galiher.

Mr. GALIHER: That is quite all right because I didn't want to confuse the witness.

The COURT: I realize that.

[Tr. 1077] By Mr. GALIHER:

Q. Do you recall approximately what time it was that you went outside of your Weather Station and took this observation that you previously testified to?

A. Which observation are we talking about?

Q. At which time you said visibility was eight miles.

A. That is the one that was recorded at 1542, is that correct?

Q. Well, if you want to check your notes or the record, please do so.

I would like you to answer the question instead of my trying to answer your question.

A. At what time did I go out?

Q. You testified that you took an observation outside of your office at which time you noted that the overcast was 5,000. You made a measurement with a ceilometer, you testified, and detected that visibility was eight miles.

Is that correct?

A. No, it is not.

Number one, I think the observation you are talking about is the observation that was filed at 1542, is that correct?

Q. Well, let me approach it this way: Didn't you [Tr. 1078] testify a few minutes ago that after you came on duty and before the siren, sometime during that period, that you did go outside of your office and take an observation?

A. That is correct, yes.

Q. All right. Now, can you tell us what time that was?

A. The observation that I took and which was recorded was the one taken at 1542.

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Q. You testified that you went outside your office, you noted that the overcast was 5,000 feet at that time, you noted that visibility was eight miles at that time, and I also have a note which perhaps you will disagree with, that a measurement was made with the ceilometer.

Now, am I correct as to that?

A. No, sir, you are wrong.

[Tr. 1079] Q. Well, what method did you use in reaching

your conclusion at that time and what if any instruments or machines did you use in arriving at your conclusion?

A. In the absence of any mark on my ceilometer, I estimated it, and that is why there is an "E" in front of that figure, the ceiling to be 5,000 feet. This is an estimation based on experience.

Q. Well, I am afraid I didn't follow you.

What did you have to say concerning the ceilometer?

A. In the absence——

Q. You had "E"——

A. In the absence of an indication on my ceilometer of a cloud height, I estimated the ceiling.

Q. I see. Consequently, since there is no recording of the use of the ceilometer, this was your estimate as a result of visually observing conditions outside your office?

A. That is right.

Q. And then you returned to your office and what did you do with that observation?

A. I recorded it on this WBAN 10-A. And then I entered it on the Telautograph for dissemination out in the field.

Q. And the dissemination would go immediately to the [Tr. 1080] Tower, is that correct?

A. To the Tower and anyone else who subscribes to the Service.

Q. And I believe you testified that was American Airlines and United Airlines?

A. That is correct.

Q. Anyone else?

A. Not to my knowledge.

Q. Now at that time when you went outside your station and made this observation, could you see the clouds indicating the approach of a thunderstorm in the northwest area of the field?

A. It was darker out there than in any other direction but I had a complete overcast, which means that you can see nothing but the base of the clouds. The base, not the tops.

Q. And that was in the northwest direction of the field?

A. West and northwest, that is correct.

* * * * *

[Tr. 1081] Q. Now, is that the only time that you went outside of your station until after you had learned of the accident and heard the siren?

A. That is correct.

• • • • •

[Tr. 1082] Q. When you returned inside the station, do you have any recollection of where Mr. Williams was and what he was doing?

A. My recollection is that he was in the radar room. He wasn't in my office.

Q. The two offices are separated, then, from one another?

A. It is two different rooms, that is correct. They are adjacent, though.

Q. You did not see him when you returned to the interior of the station?

A. No, I didn't.

Q. How long had it been that you had last seen him prior to going outside the station?

A. I don't know.

Q. Had you had any conversation with him from the time you had come on at four o'clock up to and including [Tr. 1083] the hearing of the siren or had you reviewed any records with him?

A. No, I didn't review anything with him. You can do your own self-briefing because the information is all there and it is available.

I did speak to Mr. Williams on occasions. What I said, I don't know. You know, just right next to to him, passing by him, things of that type.

Q. Were his duties concerned completely with radar at that time, from four o'clock to five o'clock on that day?

A. Yes, from the time that I came on duty, he stayed overtime, as I stated before, to work radar. If he had not stayed overtime, then I would have had to work it.

Q. Then you had the function of making the visual observations, as well as checking on the various equipment within your station during that period of four o'clock to five o'clock on that day, did you not?

A. You are confusing me a little bit. What is this checking on the various equipment?

Q. I am going to ask you exactly what equipment you checked on.

I am just stating in generalities if that is a [Tr. 1084] fair resume of your duties on that occasion?

A. My basic duty under the situation that existed on that day, I was completely responsible for observations, using any equipment that we had; which is what I did.

I also had the distinct responsibility to respond to any pilot, such as this Navy pilot that I referred to on a number of occasions, who was concerned enough about the weather situation to request my assistance and my knowledge.

Q. What time did he come to your station?

A. My estimate would be it was after I took the Special, and I was just finishing up talking with him, to him when the siren went off. So I was probably talking to him three to five minutes. So I will say, roughly, I started talking to him around a quarter of the hour.

The COURT: You say that it was after you took the Special that he came in?

The WITNESS: That is right. That is the forty-two Special.

By Mr. GALIHER:

Q. And you then spent the time from that point on up until you heard the siren talking with him about the weather?

A. Well, I estimated it was around forty-five that I [Tr. 1085] started talking to him. But from the point that I did start talking to him, until I heard the siren, I did spend with him.

Q. Now, what instruments were within your—

The COURT: Excuse me, Mr. Galiher.

Mr. GALIHER: Certainly.

The COURT: You took the Special at 4:42.

The WITNESS: That is right.

The COURT: And then the pilot came in and he was with you until you heard the siren?

The WITNESS: That is right. I am estimating that I started talking to him about 4:45. This is an estimate. I don't know.

The COURT: So you talked to him in all how many minutes?

The WITNESS: Three, four, possibly five.

By Mr. GALIHER:

Q. Did you ask Mr. Williams to take over any of your duties while you were talking with the Navy captain?

A. No, sir, I did not.

Q. What equipment did you have within your station on that afternoon which you would consult in connection with reaching weather observations?

[Tr. 1086] A. This is a complete weather observation, is that correct?

Q. Yes, sir.

A. O. K. I had a rotating beam ceilometer; I had a fixed beam ceilometer.

Q. Would you stop and tell me, please, where the instruments for measuring the ceilometer were located outside of the station, as you go along, and would you discuss the other equipment on the same basis and in the same manner, please, sir.

A. I am going to have to estimate. I don't think anyone is aware of the fact that I haven't been in Rochester for two years. I have been in Albany for the last two years. So I am going to have to use my memory on these things.

Q. Please do so, sir.

A. The rotating beam ceilometer, the detector is located near the approach end of Runway 28.

The fixed beam ceilometer is located west of the Weather Bureau office; and my recollection is that there is a base line of 850 feet involved there, although it could be a thousand feet; but it is in that area, directly west of the Weather Bureau office.

Q. All right, sir. Now will you discuss any other [Tr. 1087] recording instruments that were there and their location?

A. Oh, yes, when you asked me the question, you referred to instruments that I consulted.

Q. Yes, sir.

A. And the transmissometer, although it was not commissioned, I did consult.

Q. As a matter of fact, is it not correct, Mr. Chapman, that you always consulted the transmissometer in your station at that time and used it as a guide?

A. That is correct.

Q. It was your experience, then, was it not, Mr. Chapman, that it was quite accurate?

A. Yes.

Q. To the point that you should never disregard what it said?

A. No, I would not disregard it.

Q. And is it not a fact also, Mr. Chapman, that the transmissometer readings on that afternoon which you saw agreed with your visibility estimates?

A. Yes, at the time that I did take observations.

Q. Is it not a fact also that consistently and regularly that you used that transmissometer?

A. I consulted it. It was one of my tools. It was [Tr. 1088] a new instrument and—well, there is no point in disregarding anything that can help you.

The COURT: As a matter of fact, you were under a duty to look at it because that was part of the preparation for its commissioning, isn't that right?

The WITNESS: That is correct, yes, sir.

By Mr. GALIHER:

• • • • •

Q. Might I ask you one thing? Where was the location of the instrument for recording the transmissometer on the field, the position of the instruments which were reflected in your weather station?

In other words, where was the transmissometer set up on the field?

A. This is the projector and detector, is that what [Tr. 1089] you are talking about?

The COURT: I have it very clearly marked where he showed it.

Mr. GALIHER: Yes, sir.

By Mr. GALIHER:

Q. We have in evidence a chart which shows it was in the vicinity of Runway 28.

A. The approach end.

Q. Is that your recollection as to its location?

A. Yes, it is.

Q. Now may I apologize to you and ask that you continue describing the instruments within your station?

A. O. K. We got as far as the transmissometer, and that is the visibility section.

The next thing that I use is the wind instruments, the wind direction and the wind speed. Both dials are in the Weather Bureau.

And the next thing I use is our altimeter setting, which is your atmospheric pressure.

These are the instruments in the Weather Bureau that I use for a normal weather observation.

I probably should throw "normal" out, just a weather observation.

[Tr. 1090] Q. And you were required to keep current with those instruments on that afternoon between four and five o'clock?

A. When you say current, what do you mean, please?

Q. Regularly examine these instruments.

A. Not examining them when I take an observation. I use their information in my observation.

Q. Would you have to walk from one part of the room to the other to examine the various instruments?

A. I wouldn't even have to leave my chair.

Q. You can just sit there?

A. They are grouped around me. That is correct.

Q. Now, you mentioned a Telautograph. That was a

direct line of communication that you had with the Tower, wasn't it?

A. It is a direct line of communications in written form not only with the Tower but anyone on the field that cares to subscribe to the service.

Q. All right. Now, what other means of communication did you have so far as the Tower was concerned?

A. With the Tower?

Q. Yes, sir.

A. Yes, we had a hot line.

Q. And what was the hot line?

[Tr. 1091] A. It is a phone with only the Weather Bureau and the Tower on it. You pick it up; the Tower answers. They pick it up and the Weather Bureau answers.

Q. In other words, that was an instant means of communication between your office and the Tower at any time?

A. That is correct.

Q. During that period of four o'clock to five o'clock, did Mr. Williams discuss with you anything that he had noted on the radar?

A. Between four and five?

Q. Yes, sir, or between four and five—yes, sir, I will leave it that way, between four and five o'clock.

A. There may have been—

Let's see, how will I put it? See, I am a radar observer as well as Mr. Williams, and I can look at the radar and probably come up with the same evaluation that he does.

My recollection is that I might have said to him on occasion, how they are coming, they still moving, or something like that, as far as these echoes are concerned, but as far as he definitely giving me an official radar observation, he did not do it.

[Tr. 1092] Q. Did you go into the radar room at any time between four and five?

A. Yes, I did.

Q. What time was it, if you recall?

A. No, I do not recall because I did it on a number of occasions.

Q. How many occasions would you say you went in the radar room?

A. During that one hour?

Q. Yes, sir.

A. Could have been three, could have been five, I don't know.

Q. Did you make any report with respect to what you found or noted on radar during any one of those five occasions?

A. No, sir, I was not the radar observer.

Q. Did you discuss with Mr. Williams the visibility or the fact that perhaps information concerning what had been detected on the radar should be delivered to the Tower?

A. No, I did not.

Q. Do you recall talking to the Tower on the hot line at any time before hearing the siren?

A. No, I did not.

Q. And that is how you contacted them or they [Tr. 1093] contacted you after you heard the siren, by virtue of the hot line?

A. That is right, I called them.

Q. And that was at the point that you heard the siren?

A. Yes, sir.

Q. You had no knowledge of what had occurred prior to that time?

A. No, I did not.

Q. Did you make any observation on that day of any planes, either coming in or taking off from the airport?

A. Do you mean did I see them?

Q. Yes, sir.

A. No, I did not.

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The COURT: Mr. Galihier, excuse me for a moment. You did not see American Airlines going off?

The WITNESS: No, I did not.

The COURT: And you did not see the Mohawk plane?

The WITNESS: I still haven't seen that airplane, even after it crashed.

The COURT: And yet you conducted visibility observations and didn't see the planes?

[Tr. 1094] Mr. Witness, you stop for a minute.

The WITNESS: Yes.

The COURT: Is it your testimony that in making your visibility observations, you never saw the Mohawk plane?

The WITNESS: Is this the Mohawk plane that we are talking about that crashed?

The COURT: Yes, 112, that crashed.

The WITNESS: No, sir, I have never seen it.

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[Tr. 1095] Mr. MURRAY: Thank you.

Before calling our next witness, Your Honor, in furtherance of your comments yesterday concerning the depositions of Messrs. Davenport and McAdam, about their claims against Mohawk—Mr. Silverman has been in contact with them, and I was wondering if the Court would entertain a brief statement of his contact with them effective today?

The COURT: Oh, certainly.

Mr. MURRAY: All right.

Mr. SILVERMAN: Your Honor, this morning I telephoned Mr. McAdam, himself, and spoke to him. The circumstances of his claim was that he did not have an attorney. He was able to obtain a settlement.

[Tr. 1096] Mr. GALIHER: All right, that is as far as we need to go, Your Honor.

The COURT: He was a claimant.

Mr. SILVERMAN: Yes, sir.

Mr. GALIHER: He was. That also is true of Dr. Davenport.

Mr. SILVERMAN: Yes. May I say just one thing?

Mr. GALIHER: Dr. Davenport—

The COURT: Dr. Davenport what?

Mr. GALIHER: —was a claimant, too. That is as far as we need to go.

The COURT: That is all I wanted.

Mr. SILVERMAN: I thought there might be another thing, as to when their claims were settled in relation to the time the depositions were given.

The Court: It makes no difference.

Mr. SILVERMAN: All right, sir.

ROBERT A. HOWELL was called as a witness by the Defendant and, having been first duly sworn, was examined and testified as follows:

[Tr. 1097] DIRECT EXAMINATION.

By Mr. MURRAY:

Q. Please state your full name.

A. Robert A. Howell.

Q. What is your age, Mr. Howell?

A. Thirty.

Q. By whom are you employed?

A. Federal Aviation Administration.

Q. In what geographical location?

A. Rochester, New York.

Q. How long have you been employed by the FAA?

A. Eight years.

Q. Would the entire time be in Rochester?

A. No, I spent two years in the Air Route Traffic Control Center in Norfolk, Virginia.

[Tr. 1098] Q. As of July 2, 1963, were you qualified to work all the operating positions in the Rochester-Monroe County [Tr. 1099] Airport Tower?

A. Yes, sir.

Q. Were you on duty on July 2, 1963?

A. Yes, sir.

Q. What position were you working between the time period 4:00 p.m. to 5:00 p.m., local time?

A. I was assigned to the En Route position.

Q. Will you describe generally what the duties of the En Route position are?

A. Simply to communicate with aircraft en route, pos-

sibly both VFR and IFR, to make scheduled weather broadcasts, unscheduled weather broadcasts or any emergency communications, accept flight plans and relay weather information.

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[Tr. 1100] Q. Would you tell me with particular emphasis on the time period between four-thirty and five p.m., on July 2, 1963, what duties you were performing?

A. Between four-thirty and five?

Q. Yes.

A. Well, as I have already stated, I was on the En Route position, and being assigned to that position would have to do any duties that were applicable to it, such as answering phones, and if anyone called to file a flight plan, and immediately before the forty-five broadcast, you begin assembling the weather for the broadcast.

Q. Did your duties include the requirement that you remove materials from the Telautograph?

A. Yes, sir.

Q. Just tell me physically how you do that?

A. Well, the paper comes up from the Telautograph and [Tr. 1101] has a bar across the top and you merely grab the paper and tear it off.

Q. Does it just make one copy or more than one copy?

A. One copy at a time.

Q. Where was the Telautograph with respect to your position in the Tower Cab?

A. It was at the left-hand side of the En Route position.

Q. How far away?

A. It was on the position.

Mr. MURRAY: Would you please show the witness Exhibits 22 and 22-A, the Telautograph slip.

By Mr. MURRAY:

Q. Mr. Howell, there has been put before you what have previously been marked in this case as Plaintiff's Exhibits 22 and 22-A.

May I ask you if you recognize those?

A. Yes, I do.

Q. On July 2, 1963, did you see the material appearing on those exhibits?

A. Yes, sir.

Q. Tell me when you first saw it and under what circumstances?

[Tr. 1102] A. As near as I can recall, the first time I saw it was when I removed it from the Telautograph and time-stamped it at forty-four, which is on the back of the weather.

Q. How do you time-stamp?

A. There is a time stamp; it is a mechanical clock device with a stamping mechanism; insert the paper and it stamps the date and the time.

Q. At what stage after removing it from the Telautograph do your normal procedures call for time-stamping?

A. Would you repeat that, please?

Q. When in the ordinary course of events do you time-stamp something after you have removed it from the Telautograph?

A. Almost immediately.

Q. Is there some sort of buzzer device on the Telautograph?

A. Yes, sir.

Q. Will you——

A. There was.

Q. There was at that time?

A. (Witness nods assent.)

Q. Would you explain what it is and how it operates?

A. Well, it is used by the Weather Bureau when they [Tr. 1103] have something they want to bring to our attention on the Telautograph. It is possible you wouldn't hear the Telautograph, itself, and they push the buzzer and alert you in the Tower that the message has been put on the Telautograph.

Q. Prior to removing the Exhibit 22 from the Telautograph on July 2, 1963, did you hear the buzzer?

A. I don't recall. I don't believe so.

Q. Do you have any reason to believe the buzzer was not operating?

A. No.

The COURT: Do you have any reason to believe it was?

The WITNESS: I would just like to point out in the combined Station-Tower there is an awful lot of noise at times. With teletype being in close proximity, it is possible it was working and I didn't hear it.

The COURT: I see. Thank you.

* * * * *

Q. If a piece of equipment in the Tower goes out of kilter, are there certain log entries which are required to be made?

A. Yes, sir.

[Tr. 1104] Q. Would this apply to the Telautograph buzzer?

A. I would imagine so. I don't recall it being logged. I don't remember it being out of service.

Q. Thank you.

After you took the Exhibit 22 off the Telautograph and time-stamped it, will you please state what you did with it, if anything?

A. Being, as I said before, I was in the process of getting the latest available weather to be used on the broadcast that would start at forty-five, I merely retained it to use in the broadcast.

Q. Under the FAA procedure in existence at that time, is the type of material which appears on Exhibit 22 required to be broadcast—

A. Yes, sir.

Q. —in any particular sequence?

A. The procedures in effect are that you will include the latest available local weather as the first and last item of the broadcast.

Q. First and last?

A. Yes, sir.

Q. So it would be read twice during the broadcast?

A. That is correct.

[Tr. 1104-A] Q. What other weather would be read during the forty-five-minute-past weather broadcast?

A. I can't recall the exact stations but they are pre-selected and they are the same for each broadcast. There is one set for the quarter after broadcast and one set for the quarter of.

Q. When you say, "stations," do you mean other reporting city weather stations?

A. Yes, weather reports for other terminal areas or stations along the route to a terminal.

Q. Did you conduct the forty-five-minute-past-four broadcast on July 2, 1963?

A. Yes, sir.

Q. Approximately when did you commence the broadcast?

A. As near as I can recall, at forty-five, forty-five minutes past the hour.

Q. What did you broadcast?

A. I broadcast this special weather, and the severe weather warning that was on the position at the time had been issued by the Weather Bureau and, as I said before, the other stations that were required, and ending the broadcast with the repeat of the special observation.

Q. When you say, "the special observation," you mean [Tr. 1105] the material appearing on Exhibit 22?

A. That is correct.

Q. On what frequency were you broadcasting this?

A. One one zero point zero Rochester VOR.

Q. Approximately how long did it take you to complete the 4:45 broadcast?

A. I would estimate three minutes, finished approximately forty-eight.

Q. Is this a continuous broadcast?

A. You make every effort to make it continuous. On that day I believe it was.

Q. You can't recall any interruptions at this time?

A. No, sir, I don't recall any.

Q. What did you do after you completed the forty-five broadcast?

A. I had just finished the broadcast and one of the phones

rang, local airport inter-phone, and it was the Crash Equipment calling the Tower, to advise us that——

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[Tr. 1106] By Mr. MURRAY:

Q. You received a telephone call?

A. Yes, sir. I received a phone call from the County Crash Equipment and they were advising us that the siren on top of the Crash House was out of service and in the event they were needed, we would have to notify them by the crash phone.

Q. There are two ways to notify the County Crash Equipment, is that correct?

A. Yes. We have a crash phone, a direct line to the equipment; merely pick it up and activate the phone; and also the siren.

Q. Approximately what time did this call come in, to the best of your recollection?

A. As near as I can recall, it was almost immediately after I repeated the broadcast.

Q. All right. Continuing with the chronology of what [Tr. 1107] you did, what did you next do?

A. Well, when I got the call, I was aware that I was probably the only one in the Tower at that time that knew that the siren was out of service on the Crash House; so I turned around with my back to the runways, and I was in the process of writing a note to be posted on the siren controls, themselves; and when the crash occurred, and as I turned around, I saw the ball of fire and I activated the Crash Room.

Q. During this period of time, where was the 4:42 Teletograph message?

A. I was using it for the broadcast on the En Route position.

Q. After you completed the broadcast, what if anything did you do with the message?

A. I believe it subsequently got to the Local Control position.

Q. When you say, "subsequently," you mean subsequently, after you saw the ball of flame?

A. That is right.

The COURT: Well, a siren did sound. Was that some other siren that sounded?

The WITNESS: There are two sirens. There is one [Tr. 1108] immediately behind the Tower on top of the Weather Bureau and one on the Crash House.

The COURT: And the one on the Weather Bureau worked?

The WITNESS: That is correct.

The COURT: So you activated that?

The WITNESS: That was activated by the Local Controller but the people in the Crash House would be unable to hear it so far away.

The COURT: I understand. Thank you.

By Mr. MURRAY:

Q. Are you also responsible for collecting the weather reports off the teletype?

A. Yes, sir.

Mr. MURRAY: Excuse me, Your Honor.

By Mr. MURRAY:

Q. Just one thing in my last question.

In the position you were operating that day, the En Route position, it would be your duty to remove weather from the teletype, is that right?

A. That is correct.

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[Tr. 1109] CROSS-EXAMINATION.

By Mr. GALIHER:

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[Tr. 1110] Q. I see. But the men do from time to time, do they not, work in Air Traffic Control—they may first work at a Center and then next in a Tower or vice versa?

A. This is possible.

Q. As a matter of fact, that is similar to your own experience, is it not, Mr. Howell?

A. That is correct.

Q. How long had you worked at the Rochester Airport at the time of this accident?

A. About fifteen months.

Q. And had you worked during that time completely in the Tower or had you during the course of that time had certain duties in the Center?

A. There is no Center at Rochester.

Q. What about the IFR?

A. Yes, I worked in the IFR room also.

Q. The IFR room is located below ground or below the Tower?

A. Yes, sir.

Q. That is actually what I had reference to.

You did work there and that is where the radar was?

A. That is correct.

[Tr. 1111] Q. Was there any radar in the Tower at the Rochester Airport or was it all in the Instrument Flight Room?

A. There was no radar in the Tower.

Q. And did you have any occasion to work on radar during the time you worked in the Instrument Flight Room?

A. Yes, sir.

Q. How long had you been working in the Control Tower on July 2, 1963?

Not on that day but for how many months had you actually been in the Control Tower?

A. I went to Rochester in March of 1962. So it would be sixteen months, approximately fifteen to sixteen months I had been at Rochester.

Q. Let's take the Control Tower. What positions were there in that Tower required to be occupied on July 2, 1963, during the course of the operation of the airport by FAA?

A. There are three positions of operation: The En Route position, which I was assigned to; the Flight Data and Ground Control combined in one position; and the Local Control; a total of three.

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[Tr. 1112] Q. Can you tell us how high the Tower is from the level of the field at Rochester-Monroe County Airport?

A. The floor of the Tower, itself, is forty feet above the grade level where the Tower sits. I don't know exactly how far it would be above the airport elevation, which is different from where the Tower sits.

Q. Would you state that again?

A. The floor of the Tower, to the best of my knowledge, [Tr. 1113] is forty feet above the ground where the Tower is located. However, the airport elevation may be different than that.

Q. Well, as far as you know, is the field about on a level with the floor of the building in which the Tower sits?

A. Would you repeat that, please?

Q. I am just talking about elevations. You said that you knew that the building you were in, the floor of your Tower was forty feet from the ground.

Well, as far as you can recall, is the ground at that point approximately on a level with the field?

A. Approximately, yes, sir.

Q. Now, when you work these three positions, do you work them in a seated position or standing or from time to time one or both?

A. You can be both seated or standing.

Q. And were all three of these positions worked by looking out the Tower in a direction principally to the north?

A. All the positions face north, yes.

Q. And what visibility was there in this Tower at that time, not only north, but as to the other points of the compass?

A. I don't recall what the visibility was.

[Tr. 1114] Q. Was this a complete enclosure of glass which would permit you by turning your head at any time to look in any direction of the compass?

A. Yes, sir.

Q. Now, would you place the three positions as to location of the men in the Tower operating each position on July 2, 1963, including your own position, of course?

A. Yes.

Facing north, the En Route position is on the far left; the middle position is Flight Data and Ground Control; and on extreme right is Local Control.

Q. Now, on that afternoon, July 2, 1963, who was working the two other positions?

A. Mr. DiStasio was on Ground Control and Flight Data and Mr. Thorp was on Local Control.

Q. And Mr. DiStasio would be directly to your right?

A. That is correct.

Q. And Mr. Thorp would be directly to Mr. DiStasio's right?

A. That is correct.

Q. How close would you be together as you worked these positions?

A. I believe the Cab is about fourteen feet wide; so [Tr. 1115] the three of us would be in a space of about fourteen feet.

Q. Now, what transmission did you have on that afternoon in your position, if any?

A. Do you mean contact with another aircraft?

Q. Yes, sir.

A. I don't recall any specific contacts.

Q. Were you operating——

The COURT: That isn't the question.

The question is, what facilities did you have for that, is it not?

Mr. GALIHER: Yes, sir.

The COURT: Not whether you used them but what facilities did you have?

The WITNESS: I am sorry, I didn't understand the question.

Primarily the En Route position—the only broadcast, scheduled broadcast you make would be on VOR Frequency one one zero point zero.

There are other en route facilities available.

Q. You had fingertip and immediate availability of any other transmission you wanted apart from that one, did you not?

A. I am not sure what you mean by "immediate." The

[Tr. 1116] microphone, itself, is a boom mike. It extends from the console. You key it from a pedal on the floor.

Q. At any given moment, if you wanted to leave the transmission or frequency you have just described, you could do so?

A. You could select another frequency, yes.

Q. And Mr. DiStasio had the same access to other frequencies that you did by virtue of his position and the instruments available to him, did he not?

A. The Ground Controller has one frequency and the Local Controller has one frequency and they operate independently on that frequency.

Q. Well, what frequency was Mr. DiStasio operating on?

A. I believe at that time it was 121.9.

Q. And he was doing that by virtue of a microphone set up in front of him?

A. It is a hand-held microphone.

Q. And he could switch that to other frequencies, if he chose, could he not, just as you could do the same thing?

A. I believe so, yes.

Q. And what frequency was Mr. Thorp on that afternoon?

[Tr. 1117] A. He would have been on Local Control Frequency 118.3.

Q. And he, likewise, had a hand transmitter?

A. Yes, a hand-held microphone.

Q. And he could, likewise, switch to other frequencies if he chose to do so?

A. Yes, the frequencies that would have been controlled by that microphone.

Q. Now, were there any other persons in the control Tower on that afternoon, let us say, between two-thirty and five o'clock Eastern Daylight Savings Time that you can recall?

A. I came on duty at four o'clock.

Q. Pardon me, sir. Then during the time from the time you came on duty until five o'clock or several minutes thereafter. Were there any other persons in that Air Traffic Control Tower at any time other than yourself, Mr. DiStasio and Mr. Thorp?

A. Yes, there were other people there.

Q. And who do you recall being there in that hour span between four o'clock and a few minutes after five, if you do recall anyone?

A. Well, between the time of the accident and a few [Tr. 1118] minutes after five, there were quite a few people. I couldn't begin to tell you how many people were in there.

The COURT: Let's take it before the accident.

By Mr. GALIHER:

Q. Let's take it up to before the happening of the accident.

A. Of course, the people that we relieved when we came on just a little before four o'clock; and there was another man that was Cab Coordinator had been in the Tower earlier at four o'clock.

Q. At the time that you came on duty, these people were in the Tower as you recall?

A. The people that we relieved, yes, sir.

Q. Did they leave immediately?

A. They left when they were relieved.

Q. And that would be perhaps five or ten minutes after four?

A. Well, it would probably be closer to four o'clock. We were there before four o'clock. Possibly some of them didn't leave until a few minutes after four.

Q. Now, after they left, do you recall any other employees of the United States Government or observers who came into the Tower at any time from that point on up to the [Tr. 1119] time the accident happened?

A. I don't recall.

Q. Was anyone there learning how to operate an Air Traffic Control Tower in that period between four and five or being shown how either you operated or the two other Controllers operated?

A. I don't believe so. I don't believe so. In fact, I say, no.

Q. Did you ever leave the Tower or your position once you took your position from the time you started work up to the happening of the accident?

A. I don't recall.

Q. Do you recall if Mr. DiStasio at any time after you came to work left the position he was assigned to?

A. I don't recall that either.

Mr. MURRAY: Objection. May I ask Mr. Galiher whether he means left the position or left the Tower Cab room?

The COURT: I think he must mean the Cab, don't you?

Mr. GALIHER: Yes, sir.

Mr. MURRAY: Oh, all right.

The WITNESS: No, I don't recall.

[Tr. 1120] By Mr. GALIHER:

Q. You all from time to time would walk around in the Tower, would you not?

A. Yes, sir.

Q. Was that likewise true of Mr. Thorp. Do you recall if he ever left the Tower between four and the happening of the accident?

A. I don't recall.

Q. Now, Mr. Howell, have you on occasions worked the other two positions in the Tower?

A. Yes, sir.

Q. And you are equally familiar with the operation of those positions just as you were with respect to the En Route position?

A. Yes, sir, I believe so.

Q. How long had it been prior to the day of the accident that you had worked either of the other two positions?

A. If I had worked the day before in the Tower, I had worked them all.

Q. Now, were there any other positions within that Tower which were not being worked on the day of the accident but which were available, if you gentlemen chose, or your superiors chose to have them worked, besides the three that [Tr. 1121] you have mentioned?

A. No, sir, there are only three positions.

Q. What exactly were your duties on that afternoon?

A. Well, as I stated before, to communicate with aircraft,

if anyone called you, accept flight plans both via the communications and radio communications, if someone called on the phone, to make the scheduled weather broadcast, and just work in the En Route position, answer phones in the Tower.

Q. Isn't it a fact that traffic was extremely light both in and out of the airport on that afternoon?

A. I don't recall. I believe so. Possibly.

Q. Do you recall any contacts that you had with any planes between the time you came on duty and the happening of the accident?

A. I don't recall any contacts.

Q. Do you recall seeing any planes land at the airport between four and five o'clock?

A. There, again, I couldn't testify as to any specific aircraft. I may have. Working the En Route position, you would not be concerned with that directly with the operation of the other two positions.

I might point out, in some facilities, this position [Tr. 1122] would not even be in the Tower, itself.

Q. Well, is it a fact, then, that you were not paying any attention to what was going on in the field outside so far as visually looking at it?

A. I wasn't specifically watching what was going on outside, if that is what you mean.

Q. Did you notice what the weather was outside the Tower on that afternoon?

A. Well, as best I can recall, when the special observation came out, I do recall it being dark, but I made no observation.

Q. What time did you get this?

A. I believe it is removed and stamped at forty-four, forty-four minutes past the hour of four o'clock.

Q. And that would mean that up to that point you had been on duty forty minutes and had not taken the occasion to observe the weather outside the Tower?

A. I said I may have observed the weather. However, not specifically.

Q. And you have no recollection at all of seeing any

planes at any time either coming into the airport or taking off?

A. I am sure there were airplanes but I can't recall [Tr. 1123] any specific airplane, no.

Q. Did you ever see Mohawk 112 at any time before the accident?

A. I may have. I don't recall.

Q. Did you have any idea as to what Mr. DiStasio was doing, who he was transmitting to, who he was receiving from during that period between four and five o'clock?

A. Possibly I did, yes. I don't know—you can't be in a Tower that small and not be in some way aware of what the other two people are doing. However, I must point out that as an En Route Controller, you would not be concerned with the traffic that the Ground Controller or Local Controller was working.

Q. But this was the day of the crash. That is highlighted in your memory, is it not?

Mr. MURRAY: I object, Your Honor.

The COURT: That is a very fair question on cross-examination.

Objection overruled.

By Mr. GALIHER:

Q. This was the day of the crash. This was highlighted in your memory, was it not?

A. Yes, sir, it would be because there was a crash.

[Tr. 1124] Q. And you have no recollection of any planes coming in or out of the airport up to the time this occurred?

A. I'd say—I think I said before, there must have been—I can't recall any specific aircraft.

I believe there was an American Electra that took off shortly before; there may have been others; but as I say, I would not be concerned with watching any particular aircraft.

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Q. Do you recall obtaining any weather information

after you came on duty that day before you got this [Tr. 1125] Telautograph message?

A. Yes, sir, the weather comes out continuously on the teletype.

.

Q. Yes. Between four o'clock and when you received the Telautograph message, do you recall what weather information you had received there at the Tower?

A. No, I can't recall what weather I received. [Tr. 1126] It normally would have been the weather that was used for broadcast.

Q. Do you have any recollection as to the weather at four o'clock and the weather in and around the time you received this Telautograph message?

A. If you are speaking of the Rochester weather——

Q. Yes, sir.

A. —I would be a little more clear in my mind. It was approximately the same, I believe, with the exception that there was a thunderstorm reported.

I don't recall exactly what the weather was at four o'clock, no.

Q. Did you discuss the weather with Mr. DiStasio or Mr. Thorp at any time before this accident occurred?

A. Are you speaking of the special observation?

Q. Yes, sir, I am.

A. I don't recall—I don't believe so, because I took it off the Telautograph and used it almost immediately in the broadcast.

Q. This is what you refer to as the special observation, is it not, Plaintiff's Exhibit No. 22?

A. That is correct.

Q. You made no effort to hand it over to Mr. DiStasio?

[Tr. 1127] A. No, sir.

Q. You made no effort to hand it over to Mr. Thorp?

A. Like I believe I stated before, that the procedure at that time, as an En Route Controller, you broadcast the latest available local weather as the first and last items of the broadcast, and this was the latest weather, available

weather at forty-five minutes, since it came out at forty-four.

Q. But you had time to call it to Mr. DiStasio's attention and Mr. Thorp's attention before your 4:45 broadcast, did you not?

A. I may have

Q. But you didn't do it, did you, sir?

A. I don't recall that I did or didn't. I don't believe so.

.

Q. And on what frequency were you broadcasting?

A. On the Rochester VOR one one zero point zero.

Q. And to whom were you broadcasting at that time, so far as you knew?

A. You never really know who you are broadcasting to. [Tr. 1128] You merely make a broadcast and anyone that is flying knows that they can tune into the nearest VOR at that time that is being broadcast by that station.

Q. But unless a person just happened to be tuned to this particular frequency at 4:45, they would not obtain this forecast, would they?

A. Only the people that were concerned to get the weather would be tuned to the frequency. Anyone that wanted the weather could have tuned to the frequency and received it.

Q. After receiving this forecast from the Weather Bureau, did you from that point on up to and including the time of the accident make any attempt to ascertain who might have been on the field preparing to take off or in the process of taking off?

A. Like I said, I don't believe—as best I can recall, I don't remember that specifically that anybody was preparing to take off.

Q. Do you know that an American Airlines plane landed at about 4:45?

The COURT: Took off.

By Mr. GALIHER:

Q. Pardon me, took off at about 4:45?

[Tr. 1129] A. Yes, I believe there was an Electra took off around that time.

Q. Was any effort made to give the pilot of the American Airlines plane this special report that you had received, so far as you knew?

A. If he was taking off at forty-five, he could very well have been tuned into the VOR and received it, yes.

Q. But you don't know that he was?

A. No, sir.

Q. Wouldn't it be more likely that he would be tuned in to the instructions and directions that he was receiving from the Control Tower?

Mr. MURRAY: I object to the form of the question. The use of the word "instructions" is the part that bothers me. I thought we cleared up the difference between clearance and instructions.

The COURT: I am sure Mr. Galiher will change the word "instructions" to "messages."

Mr. Galiher: "Messages," but I have something to say about that later and I am going to go into it, Your Honor. I don't concede that at all.

The COURT: I understand that.

[Tr. 1130] Mr. GALIHER: May we have the question read back, please, for the witness?

The COURT: With the word "messages" in it.

(Whereupon the question as amended was read by the reporter.)

The COURT: I am not going to draw any inference that he was getting instructions. I realize that is a question under the regulations and a question to be argued by counsel.

However, wouldn't he be more likely to be listening to the Control Tower?

The WITNESS: He would be listening to the Tower if he was taking off, but he could also be listening to the VOR because he would be using the VOR for navigational guidance upon his departure.

By Mr. GALIHER:

Q. Of course, you would have no idea, then, who would be listening, as you have said, to your broadcast?

A. That is correct.

Q. Now, did you make any effort at the time you gave that broadcast to observe visually what was going on in front of you on the field or just west of the airport?

A. I don't recall exactly what was going on.

[Tr. 1131] Q. All you had to do to learn that, though, Mr. Howell, was just simply to look out the window or windows; isn't that a fact?

A. Yes, sir. I believe I said before that all I can recall is that at the time the special observation came out, I was aware that it was dark to the west or northwest, but as far as specifically watching the visibility or the general conditions, I don't recall doing it.

The COURT: What I gather from your testimony, Mr. Howell, is you had this 4:45 broadcast on your mind.

The WITNESS: Yes, sir.

The COURT: And here came a message right at about that time?

The WITNESS: Yes, sir, it came out—

The COURT: So you were preparing your broadcast. You got hold of it and put it in your broadcast and you went ahead with your broadcast and you don't know whether you looked out the window or not.

The WITNESS: Yes, sir, that is right.

By Mr. GALIHER:

Q. Well, didn't you have your broadcast all ready at that time as a result of having this Telautograph message which came in about 4:42, 4:43?

[Tr. 1132] A. Are you speaking of the time forty-five?

Q. Yes, sir.

A. Yes, sir, I had the information available but the broadcast had just started at that time, at forty-five.

Q. You had gathered together your information well in advance of 4:45, had you not? It wasn't a question of put-

ting all this material together at the last possible moment and giving the 4:45 broadcast, was it, Mr. Howell?

A. You just merely get the weather that you need for the broadcast and it is possible to do it in the last minute or so, yes. I don't recall whether I took one minute or ten.

Q. Then during the course of your broadcast, Mr. Di Stasio was seated right next to you and Mr. Thorp on his right?

A. The operating positions you described were to my right. Whether they were seated there or not, I can't testify to.

Q. Do you recall what they were doing at that time you were broadcasting?

A. I can't recall as to exactly what they were doing.

Q. They could have heard what you had to say completely, could they not?

[Tr. 1133] A. If you mean they could have heard me make the broadcast, yes.

Q. And it is a fact that there was very little activity on the field at that time, so far as you know?

A. I don't believe the traffic was too heavy, no.

Q. Now, after you completed the broadcast, you said the inter-phone rang?

A. That is correct.

Q. Now, where was the inter-phone located, so far as you were placed?

A. It was at the En Route position.

Q. And was there a buzzer or a bell ring just like the ordinary telephone rings?

A. It is actually not an inter-phone. It is, in a sense—it is an airport local phone; it is a two-digit dial. It rings similarly to a normal telephone, yes, sir.

Q. All they said to you was that one of the sirens was out of order on Building No. 4?

A. Yes. They may have explained it a little more in detail. I don't recall that exactly but in essence they were just advising the Tower that the siren on top of the Crash

House was out of service and if they were needed we would have to notify them via the crash phone.

[Tr. 1134] Q. That wouldn't take longer than a few seconds to tell you that, would it?

A. Like I say, they may have gone into detail. It would seem to me it took less than a minute, somewhat less than a minute.

Q. Now, at that time did you make any observation outside of your Tower as to the condition of weather on the field?

A. No, sir, I did not.

Q. Had you heard anything outside the Tower reflecting on the weather?

A. I don't recall.

Q. Had you seen anything?

A. The only thing I can recall seeing is what I testified to earlier, that at the time that the special came out, I do recall seeing some dark clouds, and that is it.

Q. You never heard any thunder?

A. I don't recall.

Q. You never saw any lightning?

A. Are you speaking of up until the time I got this phone call?

Q. Up until the time of the crash.

A. I don't recall.

[Tr. 1135] Q. Did you ever see a wall of rain come from a northwest direction and come westerly across the field to the east side of the field at any time?

A. Yes, after I—as I turned around and saw the ball of fire, sometime I saw the rain, yes. I can't—

Q. Where was the rain at that time when you turned around?

A. I couldn't say exactly where it was. I was just aware that it was raining sometime after I turned around after I saw the ball of fire.

Q. How quickly after you saw the ball of fire did you hear the siren?

A. I am not sure whether the siren was activated—probably just about the same time. Possibly a little bit before I saw the ball of fire.

Q. And do you know who turned on the siren?

A. I believe Mr. Thorp. I am not sure. The siren controls were at his position.

Q. Now, at that point, isn't it a fact that there was very little visibility on that field in front of you?

A. I don't know.

Q. You have no idea whatsoever one way or the other?

A. No, sir, I didn't—like I said, I didn't [Tr. 1136] specifically observe the visibility.

* * * * *

The COURT: Mr. Howell, this Telautograph unit was nearest to which of the three positions?

The WITNESS: It was at the En Route position.

The COURT: So it was nearest to your position?

The WITNESS: Yes, sir.

The COURT: So that normally in the practice in the Control Tower, you would be the one to get all of these special observations or messages first?

The WITNESS: Yes, sir.

The COURT: Now, I want you to suppose with me for a moment that in circumstances comparable to those that you have been describing here in answering the questions of counsel, this special observation message had come through at the same time, but it had said, "icing conditions on the runway," what would you do with that?

The WITNESS: If it had any direct bearing on the [Tr. 1137] control of traffic, I would have given it to the Local Controller.

The COURT: In order—

The WITNESS: At least brought it to his attention.

The COURT: In order to get it to the airplane as quickly as you could?

The WITNESS: Yes. I would have brought it to his attention.

The COURT: Would you have gone ahead and broadcast it on VOR first and then casually passed it down the line to him or would you say: Look, icing conditions on the runway. Take a look at it.

Which would you have done?

The WITNESS: There, again, it would depend on the actual observation, itself, as to its importance.

The COURT: Importance from what point of view?

The WITNESS: As to whether it would be immediately given to the Local Controller or not.

The COURT: So that you were the man in the Tower who had the responsibility of determining whether a particular message was or was not of immediate consequence to someone in an aircraft about to take off?

The WITNESS: Yes, sir. I might point out that the [Tr. 1138] weather, as best I can recall, that was on that special weather observation was approximately—it was an overcast ceiling of something like maybe 5,000 or 3,000 and eight-mile visibility; and this would not affect any operation.

Generally, what I am trying to bring out, if the weather went below VFR conditions, dropped to IFR conditions, this would be important; or if it went from IFR to VFR.

The COURT: Not to argue with you, but the message stated that a thunderstorm was moving with frequent lightning, cloud to ground, on toward the airport.

The WITNESS: Yes, sir. I believe the reason that it would be used on the broadcast, my making the decision that I did, would be affected in part by the fact that the broadcast goes out on a frequency that anyone at a distance from the airport can hear it and know what the weather is; whereas anyone sitting on the airport would be able to see this thunderstorm and if the observer could observe lightning, these people likewise could possibly observe it.

The COURT: Possibly. Possibly observe it?

The WITNESS: Yes.

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[Tr. 1140] RECROSS-EXAMINATION.

By Mr. GALIHER:

Q. Mr. Howell, your duties as a Controller require you to provide for a separation of air traffic both coming into

and going out of Rochester-Monroe County Airport, do they not?

A. Yes, sir.

Q. And it is your function, is it not, and the function of the Air Traffic Control Tower to direct those planes in point of order and time whether to leave the airport if there happened to be several desirous of leaving at the same time? Is that not a fact?

A. Yes, sir.

Q. And is it likewise true that the Control Tower operators or the FAA at that particular airport, under the circumstances that exist, will instruct a plane that it is to take off from a particular runway?

A. Yes. When an aircraft taxies out for take-off, you advise him of the wind and the altimeter and the active runway, and you usually use the runway that is most nearly aligned with the wind.

Q. And that is because of the fact, is it not, that [Tr. 1141] you have facilities available to you and visibility which is not available to the pilot in the plane on the ground?

A. We have the instruments to give the wind direction and speed and the altimeter. As far as the visibility goes, at that time we had no instruments in the Tower.

Q. But what other instruments did you have available to you on the field or in the Weather Bureau Station?

A. I wouldn't testify as to what the Weather Bureau had. Their instruments are their instruments. They merely give us the weather that we use.

Q. You had a hot line which enabled you to keep in very close touch with the Weather Bureau?

A. We could call them, but if we wanted to——

Q. And also it is true, is it not, that the transmission facilities which you had in your Control Tower enabled you or the gentleman on your right or his right to maintain instant contact with the plane that might be coming into the airport or taking off from the airport?

A. You would be in contact with any aircraft that was on your frequency, yes.

Q. Now, you would expect, would you not, a plane desiring to take off from Rochester-Monroe County Airport to follow the instructions that were given the pilot by the [Tr. 1142-1143] Control Tower?

A. Yes.

Q. And if that pilot violated your instructions, you would take disciplinary action against him, would you not?

A. If anything that the pilot did would compromise the safety of another aircraft, yes.

Q. And that is the only way that you can maintain safety and clearance between aircraft because of the traffic coming in and out of this airport?

A. The maintenance of a safe and orderly flow of traffic is dependent upon Controllers, yes.

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REDIRECT EXAMINATION.

By Mr. MURRAY:

Q. After you have advised the pilot of the runway in use and cleared him for take-off, may he request a change of another runway?

A. Yes, sir, he can have any runway that he desires that is open and available to him.

Mr. MURRAY: Thank you. That is all.

Mr. GALIHER: But he must, in turn, get the designation of the runway from you, your permission to use it, [Tr. 1144] and a go-ahead as to being cleared to take-off, must he not?

The WITNESS: The aircraft is cleared based on known traffic, yes, sir.

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[Tr. 1150] The COURT: Well, the Court is going to take the communications then to the plane as being discussions with Captain Dennis. Not so much because you have given me some hearsay information but because that seems to be confirmed by your information, Mr. Galiher, as to the nor-

mal practice in the operation of the aircraft, since First Officer Neff had the controls on take-off, at the start, at least, that the communications while the plane was on the ground would be with the person who was performing the co-pilot function from the right seat.

Does that seem satisfactory, gentlemen?

Mr. MURRAY: Yes sir.

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[Tr. 1156] Mr. MURRAY: May it please the Court, I would like to put on the record the agreed translation of the message appearing at 20:48:46 of Transcript No. 1, which has been marked as an exhibit in this action. I believe it is Exhibit 42.

It is Exhibit No. 42, Your Honor.

The COURT: No. 42, yes.

Mr. MURRAY: And as I understand it, counsel agrees to the following language of that transmission:

"We would like to make a left turn out as soon as practicable to avoid those thunderstorms coming in from the west."

With that modification, Your Honor, the Government has no objection to Exhibit 42 and the times appearing thereon.

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[Tr. 1157] CLAUDE W. CHAPMAN was recalled as a witness by the Defendant and, having been previously duly sworn, was examined and testified further as follows:

[Tr. 1158] CROSS-EXAMINATION. (Cont'd)

By Mr. GALIHER:

Q. Mr. Chapman, it is a fact, is it not, that at the time you came on duty on July 2, just before four o'clock or at four o'clock, you and Mr. Williams were the only ones at the Weather Bureau Station from that point on?

A. Well, it would be a short time after four when the day shift left, but Mr. Williams and I were the only ones on duty until shortly after six.

Q. And isn't it a fact that but for the fact that thunderstorms and bad weather was expected to hit the field, Mr. Williams would not have been there and stayed; you would have been the only one there?

A. That is correct, from 4:00 p.m. on.

Q. Now, at the time you heard the thunder, it is a fact that you also saw lightning, did you not?

A. Yes, sir, I did.

Q. And consequently, you included that in the 4:42 observation?

A. Yes.

Q. When you speak of 4:42, is that a time between 4:41:50 and 4:42:49?

A. Well, it is the closest time within thirty seconds [Tr. 1159] to the minute involved. In other words, it could have been 4:42:29.

Q. It is a fact, is it not, that a different weather condition suddenly took over so far as the field was concerned very quickly?

A. Yes, sir.

Q. In the area of 4:47, 4:48?

A. Yes, sir, around 4:48, I would submit.

Q. This was in the form of heavy rain showers, thunder and lightning?

A. Yes, this was the weather associated with the arrival of the thunderstorm in the exact vicinity of the field and as it passed over the field.

Q. And at the same time there was a rapid and quick change in visibility?

A. Yes, sir.

Q. When you sent the 4:42 transmission to the Air Traffic Control Tower, did you activate the buzzer at that time?

A. Yes, I did.

Q. And for how long a period of time did you activate the buzzer?

A. Just briefly, pushed it down and let up on it.

[Tr. 1160] Q. Just once?

A. It might have been twice. I don't recall, once or twice.

Q. Do you remember giving your deposition in the case of Breslau v. Mohawk Airlines?

A. Yes, I do.

Q. On Page 186, do you remember being asked this question, at the bottom of the page, the twenty-third line:

"For how long a period of time did you activate the buzzer?

"Answer: My recollection would be two or three buzzes in rapid succession.

"Question: How loud a buzzer is this buzzer, if you know?

"Answer: Well, it can be heard."

Were you asked those questions and did you answer that way?

A. Yes, I did.

Q. And that was correct, was it not, Mr. Chapman?

A. Well, there has been some period of time since I gave that deposition and I would believe that two to three, if I said it then, is more correct than one to two.

Q. But your recollection was clearer in 1964, was it [Tr. 1161] not, when this deposition was taken than it is today?

A. Well, yes, it would have to be because it was closer to the incident.

Q. You told us Friday you made no visibility check of the field during the course from the time you came in after making your observation outside up to and including your hearing the siren, is that correct?

A. That is from the time of the Special at forty-two until I heard the siren?

Q. When you went outside, as you have indicated—

A. That is correct.

Q. Isn't it a fact that you did look on the field between forty-five and fifty and did observe the visibility was not good at the take-off end of Runway 28?

A. Between forty-five and fifty, I was briefing this Navy

Pilot. I do not recall looking at the approach end of Runway 28.

Q. Isn't it a fact you also saw hail falling on the field?

Mr. MURRAY: Objection, Your Honor, unless we specify what time this is.

By Mr. GALIHER:

Q. Between forty-five and fifty.

[Tr. 1162] A. Between forty-five and fifty?

Q. Yes, sir.

A. I think on WBAN, that is all recorded on WBAN when I did see hail falling.

Q. On 199 of your deposition, were you asked these questions:

"According to the wind direction parameter of Plaintiff's Exhibit 39, for identification, for approximately what period of time was the wind from the northwest according to that instrument? Prior to the wind shift at approximately 4:49 p.m.

"Answer: It was from the northwest from 4:37-38 to 4:49.

"Question: You have said you observed hail?

"Answer: Yes, I did.

"Question: And that was on the basis of what you could see at the Weather Bureau Station?

"Answer: That is right.

"Question: Could you see whether the hail was also falling near Runway 28?

[Tr. 1163] "Answer: No, because visibility was not that good.

"Question: You could not see the takeoff end of Runway 28 if there was an object above the ground located there, such as an airplane?

"Answer: No, sir.

"Question: Is that correct?

"Answer: That is correct."

Were you asked those questions and did you so answer?

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The WITNESS: Was your question, did I give that testimony at the deposition?

Mr. GALIHER: Yes, sir.

[Tr. 1164] The WITNESS: Yes.

The COURT: And it is a fact that you couldn't see the end of the runway between forty-five and fifty, is that right?

The WITNESS: No, sir. I couldn't see the end of the runway—once I went out, after I heard the siren, this is when the hail started and this is when the heavy rain started and there was—there is a time lag in there of forty-five to fifty that I am being asked about, and right in that time, probably about forty-nine or right around fifty was when I couldn't see the approach end of Runway 28.

This was the time when—

The COURT: You reported hail on the WBAN at 4:50. So you probably saw it a little before 4:50, 4:49, something of that sort, is that right?

The WITNESS: Roughly in there, yes. This was in the process of taking the observation.

By Mr. GALIHER:

Q. Now, you were talking about, or rather, I asked you, perhaps, instead of you talking about, on Friday about the 4:40 special observation.

Remember being asked about that one on Friday?

A. About the 4:40 observation?

[Tr. 1165] Q. Yes.

A. Yes, sir.

Q. After you took that observation, you utilized it, did you not, to warn people of severe weather?

A. I put the observation on Telautograph.

Q. That list was disseminated to the civil agencies, the Police Department, First Department, and Civil Defense, was it not?

A. No, we are talking about something else now. The observation isn't given to these people. This thing that you just brought up is the check list used in Rochester when the original severe weather forecast was issued.

Pilot. I do not recall looking at the approach end of Runway 28.

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By Mr. GALIHER:

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"Answer: No, sir.

"Question: Is that correct?

"Answer: That is correct."

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The WITNESS: Was your question, did I give that testimony at the deposition?

Mr. GALIHER: Yes, sir.

[Tr. 1164] The WITNESS: Yes.

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Remember being asked about that one on Friday?

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A. Yes, sir.

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A. I put the observation on Telautograph.

Q. That list was disseminated to the civil agencies, the Police Department, First Department, and Civil Defense, was it not?

A. No, we are talking about something else now. The observation isn't given to these people. This thing that you just brought up is the check list used in Rochester when the original severe weather forecast was issued.

Q. Now, what is the calling list?

A. You mean who is on it?

Q. Yes, sir.

The COURT: Now, are we talking about the calling list for the special observation?

Mr. GALIHER: Yes, sir.

The COURT: Who is on the calling list for the special observation, if any?

The WITNESS: The only dissemination of the special observation—there is no calling list—one, is to put it on the Telautograph for the use of local aviation interests on the field, and the next, if possible, to get it on Service A teletype so that it will be transmitted to the [Tr. 1166] other weather bureau stations throughout the area. But no one is called specifically by phone.

By Mr. GALIHER:

Q. When you were outside taking observations, you noted no gustiness that particularly impressed you, did you?

A. No, sir.

Q. It wasn't what you would call a windy day at that time, was it?

Mr. MURRAY: Objection, unless we specify what time we are speaking of.

Mr. GALIHER: At the time he went outside to take the observation.

Mr. MURRAY: The forty observation?

The WITNESS: The forty observation?

By Mr. GALIHER:

Q. Yes, sir.

A. Not extremely windy or dangerously windy. It was breezy, though.

Q. Did you at any time observe the actual shift of the wind direction?

A. No, sir, I wasn't looking at the wind direction parameter when the shift did take place. However, it was recorded on the register.

[Tr. 1167] Q. Is it your testimony that there was no excessive precipitation on that day?

A. No.

Q. In the afternoon?

A. Excessive precipitation?

Q. Yes, sir.

A. There was heavy precipitation. In the Weather Bureau, the word "excessive" has another meaning.

Q. What is the difference between the words "heavy" and "excessive," so far as you are concerned?

A. We are getting out of the aviation field. Excessive precipitation is used by engineers for, say, the designing of sewer capacities, and so on, and so forth, the amount of rain that falls in a five-minute interval, ten-minute, fifteen-minute interval.

I probably shouldn't have, but excessive, in aviation——

Q. You don't use such a term?

A. Not in reporting weather, no, sir.

Q. Now, on Page 607 of the Civil Aeronautics Board testimony, were you asked this question, at the bottom of the page.

"Would your records indicate that [Tr. 1168] precipitation was considered to have been intensive at any particular time?

"Answer: There was no excessive precipitation that day."

Were you asked that question and did you answer as I have read to you?

A. Yes, sir, I believe so.

Q. You told us Friday that you did consult the transmissometer.

A. Yes.

Q. And where is the recording in your Weather Bureau Station to read the transmissometer?

A. The recorder for the transmissometer?

Q. Yes, sir.

A. It is in a bank of instruments that is just to the

right of the observer's chair as he sits at the console, the observer's console.

Q. And the transmissometer chart showed, did it not, a tracing prior to the 1552 reading or 4:52 reading that you previously testified to that the tracing went from between seven and eight miles down to about an eighth of a mile?

A. That is right.

Q. Isn't it a fact that it was at 1548 or 4:48 that [Tr. 1169] the transmissometer reading was one-eighth of a mile?

A. There was—it was right around there. I would have to see the chart to know absolutely specifically or not.

Q. Were you asked—

Excuse me, sir, had you finished?

A. Yes.

Q. On 618 of your Civil Aeronautics Board testimony, were you asked this question:

“If you had looked at the transmissometer at that point, what would it have read?

“Answer: At 1548?

“Question: Yes, sir.

“Answer: Now we need the conversion chart.

“Mr. Brunswick: The conversion chart is attached.

“The WITNESS: Oh, yes, I see.

I would have to tell them one-eighth of a mile.

“Question: Referring to Exhibit 8K, Mr. Chapman, am I correct that the visibility was one-eighth of a mile for—well, tell me how long a period between the hour of four o'clock—

[Tr. 1170] “Answer: At the point it had dropped down to its lowest point in that one mile sector, that would be just about two minutes. Each one of these lines is ten minutes.

“Question: Now let me ask you again, how long a period of visibility at one-eighth of a mile is indicated by the chart?

“Answer: Just a minute.

“I would say just about two minutes.”

Were you asked those questions and did you answer as I have indicated?

A. Yes, sir.

Q. It was your practice on that day and every day, was it not, to work closely with the Tower Dispatchers when you had storms of this intensity or anticipated intensity approaching the field?

A. Yes, we consulted with one another when we felt that we knew something that possibly the other office didn't know.

We didn't consult continuously. It wasn't on a scheduled basis.

Q. You were at that time an experienced radar observer, were you not?

[Tr. 1171] A. Yes, sir.

Q. And you were concerned, were you not, with making a prompt report at the technical time that the thunderstorm comes—when you first hear thunder?

A. Yes.

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The COURT: Mr. Chapman, did you have in your place where you worked any kind of instrument that enabled you to hear what was being said on the various Tower frequencies to the aircraft on the take-off strips?

The WITNESS: No, sir, I didn't.

The COURT: You had none that you could put on?

The WITNESS: No, sir, there is no radio equipment of that type in the Weather Bureau.

The COURT: To what extent were you aware of the traffic on the field on this day?

Did you know American Airlines had a plane that was taking off around 4:45?

The WITNESS: No, sir. In the Weather Bureau, we don't have airline schedules. If I may expand on that just a little bit.

Any pilot that wants weather information, he has [Tr. 1172] to initiate the action.

The COURT: But it is not part of your practice to know what the traffic on the field is?

The WITNESS: No, sir, it isn't.

The COURT: Did you observe American Airlines plane taking off?

The WITNESS: No, I didn't see that airplane leave the field.

The COURT: Did you observe Flight 112 at any stage of its taxiing or take-off?

The WITNESS: No, sir.

The COURT: That was a fairly regular schedule at that field, wasn't it, that American would go out weekdays at 4:45 and Mohawk would go off on some days at 4:45 from the gate?

The WITNESS: Well, yes, it is. But—

The COURT: Had you been working that shift a long time, the four o'clock shift?

The WITNESS: Well, we work rotating shifts in Rochester and I periodically worked the four-to-twelve shift.

The COURT: But you were not aware that planes of American and Mohawk took off about that time from your general observation experience?

[Tr. 1173] The WITNESS: You know that there are aircraft operations going on, of course, but to know or make a mental note when it isn't part of your job of what time who takes off, I never did it.

The COURT: And you had no practice at the Weather Bureau that even when you knew a thunderstorm was about to strike the field to check the nature of the aircraft operations that might be coming in and out of the field?

The WITNESS: No, sir, because we gave this information to the Tower and they had radio contact with the interested parties. This was in the line of dissemination.

The COURT: Did you ever tell the Tower that you and Mr. Williams expected a thunderstorm to hit the field?

The WITNESS: On Telautograph before I came to work.

The COURT: I am familiar with that message.

The WITNESS: Yes.

The COURT: But did you, yourself, or Mr. Williams in

your presence ever tell the Control Tower that you expected a thunderstorm to hit the field, other than appears in the Telautograph messages?

The WITNESS: No, sir, but they have a drop on Service A teletype and they get the same Terminal forecasts [Tr. 1174] that we do and there was one current at that time indicating heavy thunderstorms and the type of weather we got.

The COURT: Now, when you took this observation at 4:40, where was the storm?

The WITNESS: It was northwest.

The COURT: How far?

The WITNESS: My estimate would be—it is hard to say exactly how far because it was complete overcast and all I could see was the base of the clouds. I couldn't see the vertical outline of the storm.

The COURT: How near did you think it was when you took that observation?

The WITNESS: In my opinion, I would say around four or five miles away.

The COURT: And how fast was it moving?

The WITNESS: That, I can't tell you. Mr. Williams was tracking it on radar.

The COURT: Well now, you told the Court that you had gone in and looked at the radar yourself and that you were experienced and trained in reading radar messages.

How far did you think it was—how fast did you think it was moving when you looked at the radar?

The WITNESS: I would estimate—this is only an [Tr. 1175] estimate because I didn't sit down and measure—finding out how fast an echo is moving on radarscope, you have to sit down and draw lines and measure.

The COURT: So you made no effort to find out how fast it was going, is that right?

The WITNESS: No, not exactly how fast it was going.

The COURT: Did Mr. Williams give you any indication of how fast he thought it was going?

The WITNESS: At one time he mentioned the figure thirty-five to forty miles an hour.

The COURT: Do you remember when that was?

The WITNESS: That was—not specifically, but I would estimate somewhere around 4:30, along in there.

The COURT: Around about four-thirty?

The WITNESS: Yes, sir. These echoes started getting close enough that we had to start watching visually for them to reach the field.

The COURT: And whose duty from four-thirty on was it to watch this storm visually as it approached?

The WITNESS: Visually?

The COURT: Yes.

The WITNESS: Mine.

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[Tr. 1178] Q. Did you and Mr. Williams discuss together what had occurred on this particular day, July 2, 1963?

[Tr. 1179] A. Yes.

Q. And he was your superior in the Weather Bureau Station and was there at all times between 4:40 and 4:50?

A. Yes, sir.

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EDMUND BURKE was called as a witness by the Defendant and, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION.

By Mr. MURRAY:

Q. What is your full name?

A. Edmund Burke, B-u-r-k-e.

Q. And your residence address, Mr. Burke?

A. 4502 Andes Drive, Fairfax, Virginia.

Q. A-n-d-e-s Drive?

A. A-n-d-e-s, yes, sir.

Q. By whom are you presently employed?

A. By the Federal Aviation Administration, Washington,
D. C.

[Tr. 1180] Q. How long have you been employed by the Federal Aviation Administration or its predecessor agencies?

A. Twenty-one years.

Q. Commencing with your graduation from high school, will you please tell me your experience in the field of air traffic control?

A. After high school, I enlisted in the Air Force, and after enlisting, I went to pilot training in the Air Force, graduated in the summer of 1943, and stayed with the Air Force, flew B-24's in Italy, subsequently was discharged in late 1945.

Q. Let me interject there. Approximately how many hours of flying time did you have while in the military up to your discharge?

A. Approximately 1,000.

Q. All right, go ahead.

A. I joined the CAA in 1947, as a Trainee Aircraft Controller at the Chicago Midway Airport, became an Airport Traffic Controller there at Midway, and remained there until 1955, at which time I transferred up to Chicago O'Hare International, became a supervisor at O'Hare, a Watch Supervisor at O'Hare.

Q. What is a Watch Supervisor?

[Tr. 1181] A. A Watch Supervisor at a Tower facility is the person who is responsible for seeing that all the positions of operation are adequately staffed and that the conduct of the Aircraft Control is proper.

Q. While you were at Chicago O'Hare—first going back while you were at Chicago Midway, were you qualified to operate all of the positions in the Tower there?

A. Yes, all the positions in the Tower and the IFR room, which had radar facilities.

Q. And what positions of operation did you work at Chicago O'Hare?

A. The same. I would work all the positions of operation in the Tower, in the IFR room and also supervise.

Q. In the instances of both Chicago airports, did you become fully qualified as a Controller at each of them?

A. Yes, sir, I did.

Q. Please continue.

A. In 1961, I bid on and was accepted for a job in Operations Evaluation Staff of the Air Traffic Service in Washington, and I have been in that capacity ever since.

Q. What are your duties with the Operations Evaluation Staff of Air Traffic Service?

A. Our particular staff gets involved in the evaluating [Tr. 1182] of the Air Traffic Control Services being conducted at various facilities around the country. We analyze incidents, accidents for Air Traffic Control, see that the Air Traffic Control is conducted properly.

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[Tr. 1183] Q. Are you required to stay current on the manuals of the FAA in accordance with your duties in the Operations Evaluation Staff?

A. Yes, sir, you have to in order to know what the procedures are that have to be applied.

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[Tr. 1184] By Mr. MURRAY:

Q. Under FAA regulations and procedures, will you define for me what a combined station-tower is and what its functions are?

A. Yes. The combined station-tower is actually performing what is normally accomplished by two different facilities. An example of that was at Chicago Midway Airport. We had the Control Tower with the associated IFR room; and on the other side of the airport we had the Flight Service Station.

Now, at Rochester, the Flight Service Station is incorporated into the Tower facilities, so that it is functioning adjacent to and in the same quarters as the Control Tower.

This is at facilities where the traffic isn't so great that the Flight Service Station functions would interfere with the operation of the Control Tower.

Q. In a combined station-tower under the FAA proce-

dures, what positions of operation would be Flight Service Station positions and which would be Tower positions?

[Tr. 1185] A. The Tower positions would be the Local Controller, who would be talking and issuing clearances to traffic coming in to land and to take off; the Ground Controller, who would be talking to the aircraft on the ground; and the Flight Data position, getting IFR clearances from the Center, giving departure times, and so forth.

* * * * *

The Flight Service Station position would be the person that would give the scheduled broadcasts, answer the phone in case a pilot called for a pre-flight briefing, and taking of a flight plan, the IFR flight plan from a pilot, and initiating the action there.

* * * * *

[Tr. 1187] By Mr. MURRAY:

Q. To be a Tower Controller, is there any requirement that the Controllers be weather observers?

A. Yes. At the facilities where you take the observations, you become a weather observer only in the sense that you take visibilities. You don't become an official weather observer.

However, I believe at some of the Flight Service Stations out in the areas where there is no associated Weather Bureau, you do actually take over the observer functions. But at a Control Tower it is just the visibility.

[Tr. 1188] Q. So the Controllers are qualified to report observed visibility?

A. Yes, sir.

Q. Under what situations, as the procedures existed on July 2, 1963, would the Controllers have a duty to take visibility observations?

* * * * *

[Tr. 1189] The Tower takes over the visibility observations when the prevailing visibility goes below four miles.

By Mr. MURRAY:

Q. When you say, "takes over," can you explain what you mean by that?

A. Well, they then become the visibility observers and make their observations and pass them along to the United States Weather Bureau.

Q. I believe you stated in your work you are required to be familiar with the various manuals governing the Air Traffic Controllers?

A. Yes, sir.

Q. What is the primary manual setting out the Controllers' duties in the Tower?

A. They are contained in the Air Traffic Control Procedures Handbook, at that time AT P 7110.1A.

Q. Have you examined the excerpts from Manual AT P 7110.1A, which was in effect at the time of this accident and which has been introduced in evidence as a Defendant's exhibit?

A. Yes, sir, I believe I did.

Q. Under the provisions of that manual, under what [Tr. 1190] circumstances were Controllers, on July 2, 1963, authorized to deny a clearance for take-off at Rochester-Monroe County Airport?

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The WITNESS: Yes, sir.

The Controller could or would withhold or deny—whatever words you want to use—a take-off clearance if, for example, the runway was closed by the operator of the airport. In that case it would be a NOTAM out, saying, Such-and-such a runway is closed.

The other would be for known traffic. For example, that would be if an aircraft says he is ready for take-off and you have an aircraft on the final approach, you withhold the take-off clearance until such time as that traffic is no longer a factor.

[Tr. 1191] Then you get into the visibility. If the prevailing visibility is—first, you have two other steps. You have, if the RVR is below a certain reading for the take-off

runway, then you withhold take-off clearance. If the RVV is below a quarter of a mile, you withhold take-off clearance. If neither of these are at the airport, then if the prevailing visibility is less than a quarter mile, you are not supposed to give the clearance.

The COURT: Now, Mr. Witness, what do you mean by "at the airport"?

The WITNESS: The——

The COURT: Within the geographical confines of the airport, is that what you mean by "at the airport"?

The WITNESS: In the case of the equipment readings, yes, sir. These would be the RVR and the RVV, and they would have to be naturally at the airport.

The COURT: Well, but where you say that the people in the Tower have a visibility responsibility when visibility gets below four miles——

The WITNESS: Yes, sir.

The COURT: —does that mean you understand the regulations to say that that is when the visibility is under four miles within the geographical limits of the airport?

[Tr. 1192] The WITNESS: It would be the visibility as observed from the Control Tower.

The COURT: So that if they saw a storm that was three miles away, coming at the airport, they had a responsibility then to take over the visibility observations, is that right?

The WITNESS: Only if that storm was in fact reducing the visibility below four, yes, sir.

The COURT: Yes. And if in the quadrant from which the storm was coming it was reducing visibility below four miles, they had a responsibility to take over and do what?

The WITNESS: They would report this reduction below four in that particular quadrant, yes, sir.

The COURT: To whom?

The WITNESS: They would first report it to the United States Weather Bureau, and then they would report it to anybody that requested the information.

The COURT: To anybody that requested the weather?

The WITNESS: Weather information, yes, sir.

The COURT: Proceed, Mr. Murray.

By Mr. MURRAY:

Q. I don't know whether we have had definitions of what RVR and RVV are.

[Tr. 1193] Would you just state what they are?

The COURT: One is Runway Visual Range. We have had testimony on that.

By Mr. MURRAY:

Q. Did the Rochester-Monroe County Airport on July 2, 1963 have in effect RVR or RVV?

A. At the Control Tower, no, sir.

Q. What type of radar was in use at the IFR room at Rochester on July 2, 1963?

A. An ASR-4.

Q. Does that have an iso-echo factor attached to it?

A. No, sir, it does not.

Q. For what purpose is an ASR-4 radar used within the FAA controls functions?

A. It is used for the control and separation of aircraft.

Q. Is it a reliable weather radar?

A. Well, it is not made specifically for weather. It does pick up and display precipitation areas, yes, sir.

Q. Does an ASR-4 radar have attached to it any systems to eliminate weather returns?

A. Yes, sir. It has MTI and Circular Polarization both, all tend to eliminate weather that is being picked up by the [Tr. 1194] antenna sweep.

Q. What is the reason for eliminating the weather?

A. Well, if the weather is painted on the scope and is very bright, the aircraft target in that area would not be discernible and, therefore, the effect for traffic control purposes of the radar is eliminated by the weather display. Therefore, you try to eliminate or reduce this as much as practicable.

* * * * *

[Tr. 1197] By Mr. MURRAY:

Q. You have testified that if the visibility goes below a

half a mile, prevailing visibility goes below a half a mile, the Tower can deny clearance for take-off.

What I want to know is who determines this prevailing visibility?

A. You stated a half mile. I said below a quarter mile, deny take-off.

[Tr. 1198] Q. Excuse me.

A. Who determines that visibility?

Q. Yes.

A. This would be determined from the Tower Cab in the case of the prevailing visibility.

Q. How would they go about determining the prevailing visibility?

A. They would scan—just look out the window in all directions to see what visibility objects were visible and noting which were not visible.

Q. Now, you have mentioned earlier about the duty devolving upon the Controllers to take visibility observations when the visibility decreases below four miles.

A. Yes, sir.

Q. Now, does the Weather Bureau then have no duty to report visibility values?

A. They continue to take their observations and there are a couple of circumstances wherein the—what they call the official visibility—even though the Tower is saying it is less than four, they still have to make their observation. But the official visibility for the airport would be made by the Weather Bureau. This would be in the case where you have a Tower and the weather comes down and encompasses the Tower, [Tr. 1199] but on the surface the Weather Bureau observer can see considerably more than the Tower. If he sees twice as much as the Tower, then his visibility would be what they called the official visibility and the Tower visibility would then go to the remarks column.

Q. Does the fact that there is a completely covered ceiling of clouds have any effect upon visibility, as the term, "prevailing visibility," was used by the FAA at the time of this accident?

A. No, sir, it doesn't have any bearing on it at all.

Q. Will you explain to me in a little more detail what

exactly prevailing visibility is, what it is intended to measure?

A. It is visibility—and let's take it from the Control Tower from where the platform on which they are standing, they look out at objects on the ground, on the surface, and ascertain just how far from their position they can see, half a mile, two miles, five miles, four miles, whatever it happens to be.

Q. Under the FAA procedures existing on July 2, 1963, were the Controllers authorized to deny clearance for take-off when there was total cloud cover as far as they could see from their position in the Control Tower?

[Tr. 1200] A. The cloud cover has no bearing on it. It is a strictly visibility situation.

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CROSS-EXAMINATION.

By Mr. GALIHER:

Q. Mr. Burke, was your first trip to the Rochester-Monroe County Airport after this accident had happened?

A. Yes, sir.

Q. You had never been there before?

A. No, sir.

.

Q. And you have heard Mr. Howell testify?

A. Yes, sir.

Q. Mr. Howell was the one who received the Telantograph.

A. Yes.

Q. You have heard Mr. Howell testify that there was no one else in the Cab in the Air Traffic Control Tower, at [Tr. 1201] least after the men who were replaced at the four o'clock shift, and the happening of the accident, besides himself, Mr. DiStasio, and Mr. Thorp.

You heard him testify to that, did you not?

A. Yes, sir.

Q. That is not a fact, is it, Mr. Burke? There was another man there for at least fifteen minutes, was there not, up to the happening of the accident and for several minutes thereafter; and you have heard him testify at the CAB hearing?

A. I don't recall that, Mr. Galiher, no, sir. I am sorry.

Q. Do you have in your employ and did you have at the Rochester-Monroe County Airport on the day of this incident a gentleman by the name of John F. Mahoney?

A. I am not sure. I would have to get the records.

Q. Were you present throughout the full CAB hearing?

A. No, sir. I left after the completion of the Air Traffic Controllers' testimony.

Q. As a matter of fact, don't you know that he gave testimony in the case of Breslau v. Mohawk Airlines?

A. No, sir, I don't have any idea of that.

Q. Did you interview the men who claimed to be in the [Tr. 1202] Control Tower at the time of this accident or were they interviewed in your presence?

A. There were discussions with the three, Mr. DiStasio, Mr. Howell and Mr. Thorp, in my presence, at Rochester, yes, sir.

Q. And do you tell us that you do not know a gentleman by the name of John F. Mahoney, 478 Winona Boulevard, Rochester, New York, employed as an electronics maintenance technician by the Federal Aviation Agency, and employed at Rochester-Monroe County Airport on July 2, 1963?

A. I can't say that I do, Mr. Galiher. It doesn't ring any bells of memory for me.

* * * * *

[Tr. 1203] Q. Well, what authority would the Air Traffic Controllers have to close down the use of the airfield because of adverse weather conditions?

A. No authority whatsoever, sir.

Q. But they had a duty, did they not, if visibility on the runways dropped below one-quarter of a mile, to either

withhold or cancel clearances that might have been given to [Tr. 1204] aircraft intending to use the air strips?

A. They have the—the handbook tells them to withhold or deny these take-off clearances under the specific visibility conditions, yes, sir.

Q. I have stated it accurately, have I?

A. Pretty close, yes, sir.

[Tr. 1206] I have had a chance, Your Honor to glance over this deposition of John F. Mahoney that Mr. Galiher provided me and I do admit the man testified for a ten- or fifteen-minute period he, as a maintenance technician for the FAA, was up in the Tower Cab.

[Tr. 1210] (Whereupon the following excerpts were read from the Deposition of Carl A. DiStasio by Mr. Galiher.)

MR. GALIHER: This is on Page 2680, Line 9:

“Question: Now, were you aware of any thunderstorm in the area prior to the time that Mohawk Flight 112 requested taxi instructions?

“Answer: No, I was not.

“Question: You state you were aware, however, of the severe weather warnings that had been put out that afternoon prior to Flight 112's departure?

“Answer: Yes.”

Then, again this is Mr. Robert Thorp's deposition, Your Honor.

[Tr. 1211] (Whereupon the following excerpts were read from the Deposition of Robert B. Thorp by Mr. Galiher.)

MR. GALIHER: Page 3067, Line 14.

Question: Did you at any time prior to the acci-

dent receive any report of runway visibility from any person?

"Answer: No, I did not."

* * * * *

[Tr. 1216] EDMUND BURKE was recalled as a witness by the Defendant and, having been previously duly sworn, was examined and testified further as follows:

DIRECT EXAMINATION.

By Mr. MURRAY:

Q. Mr. Burke, you are not a weather observer, are you?

A. No, sir.

[Tr. 1217] Q. In your job with the FAA, did you obtain a qualification as a visibility observer?

A. Yes, sir, I did.

Q. What if any training were you given concerning meteorology and understanding meteorological documents or writings?

A. Well, you have to be able to interpret the language or the symbols of the Weather Bureau and what they mean and—well, that is it—know what they are and what they mean.

Q. Were you trained by the FAA in this respect?

A. Yes, sir.

Q. Did you receive any training by the Weather Bureau in this respect?

A. No, sir.

Mr. MURRAY: May I give the witness Defendant's Exhibit 10?

May I give the witness Plaintiff's 22, please?

The COURT: Here is 10.

Mr. MURRAY: If the witness can be handed 10 and 22, also.

(Whereupon the documents were submitted to the witness.)

[Tr. 1218] By Mr. MURRAY:

Q. Referring to Exhibit 22, were you trained to read the common sense meaning of what those symbols are there?

A. On this exhibit here?

Q. Yes, 22.

A. Yes, sir.

Q. I want to focus specifically on "frequent lightning from cloud to ground," and ask you if in your experience as a Controller and your position with the Federal Aviation Agency you can state what that term means from an Air Traffic Controller's standpoint?

A. To me it would mean the observer has seen lightning coming from the cloud and continuing on down, touching the ground level.

Q. Does it reflect anything in so far as you are concerned with respect to cloud cover?

A. That particular thing doesn't but the other one tells me that the cloud cover is estimated at 5,000 feet above the ground, which leaves considerable area below the cloud layer clear.

Q. And would this be the area in which the lightning is seen?

A. In my opinion it would be, yes, sir.

[Tr. 1219] Q. If the lightning were seen to emanate from the cloud and terminate in the cloud, what would be the symbology for that?

A. That would be "cloud to cloud lightning."

Q. But your interpretation of "frequent lightning from cloud to ground" means that the clouds do not extend to the ground?

A. Probably just the opposite. If they did, you probably wouldn't even see a good portion of this lightning, unless it was very close.

The COURT: What was that answer?

The WITNESS: I said, probably just the opposite, sir. If your clouds were right down to the surface, where your visibility would be zero, so to speak, chances are you wouldn't even see the lightning.

The COURT: You mean, in other words, it is easier to see lightning against clear sky than it is against the background of a dark cloud?

Is that your testimony as a weather observer?

The WITNESS: No, sir, I am not saying against a background of a dark cloud. Naturally, it would be more prominent.

[Tr. 1220] What I am saying is, if the overcast came right down to the surface, then you would in fact be in the cloud, itself, and very very little if any visibility.

The COURT: But if the storm was off a ways, coming, your best visibility of lightning would be if it was dark behind it, wouldn't it?

The WITNESS: Yes, probably.

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[Tr. 1222] DONALD JOSEPH LOUDIN was called as a witness by the Defendant and, having been first duly sworn, was examined and testified as follows:

[Tr. 1223] DIRECT EXAMINATION.

By Mr. MURRAY:

Q. Will you please state your full name.

A. Donald Joseph Loudin, L-o-u-d-i-n.

Q. Where do you reside, Mr. Loudin?

A. 26 Hankins, H-a-n-k-i-n-s, Drive, Hampton, Virginia.

Q. By whom are you presently employed?

A. Universal Airlines.

Q. In what capacity?

A. As a captain.

Q. What is the nature of Universal Airlines' business, please?

A. Universal Airlines is a supplemental air carrier.

Q. And for my benefit, what is a supplemental air carrier?

A. A supplemental air carrier is a non-scheduled air carrier.

Q. Do they carry both cargo and passengers?

A. That is correct.

Q. And you are a pilot with them?

A. Yes.

Q. How long have you been with Universal?

[Tr. 1224] A. Two and a half years.

Q. Would you please give me your background in aviation from the time you left high school and in general, giving us year references when you made changes?

A. When I left high school and joined the Navy in 1941, I came up through the ranks as an aviation mechanic to aviation chief machinist's mate, attended flight school, and was commissioned in the Navy as a naval aviator. That was in 1950.

I served in that capacity until 1961, nine years of which I served in the Military Air Transport Service as an instructor pilot, navigator flight examiner and flight engineer flight examiner.

Q. What type of equipment would you fly during the period from 1951 through 1961?

A. We flew aircraft that were comparable to the civilian versions of the DC-4, DC-6 and Super Constellation, Lockheed 1049.

Q. All right, sir. In 1961 did you retire from the Service?

A. In 1961 I retired from the Navy.

Q. At what rank?

A. I was a Lieutenant Commander. I went to work for [Tr. 1225] Mohawk Airlines.

Q. When? In 1961 would this have been?

A. That I went to work for Mohawk?

Q. Yes.

A. It was June, I believe, of 1961.

Q. In what capacity were you employed by Mohawk Airlines?

A. I went to work as a flight instructor, which was later changed to flight manager.

Q. How long did you remain with Mohawk?

A. I was with Mohawk until July or August of '63.

Q. So approximately two years with Mohawk?

A. That is correct.

Q. During your tenure with Mohawk, how many training pilots did they have?

A. Approximately 250 pilots.

Q. That would be the total number of pilots that they had?

A. It varied; it was about that number.

Q. Now, my question to you is how many were performing the function you were, that is, training pilots?

A. Oh, training pilots. We had—it varied but for most of the time it was three flight managers.

[Tr. 1226] Q. Of which you were one?

A. That is correct.

Q. After you left Mohawk in the summer of 1963, what did you then proceed to do?

A. I took a course at the Aerospace Safety Division of the University of Southern California in aircraft accident investigation and flight safety; in '64 I went to work for the National Aeronautics and Space Administration as Air Operation Supervisor for Administrative Aircraft, and I remained there until June of '64, when I went to work for Universal.

Q. How many total flying hours do you have at the present time?

A. About 16,000.

Q. Will you list for us the aircraft on which you are qualified to be a pilot?

A. Well, I have type ratings in C-46, DC-4, DC-6 and 7, Convair 240, 340, 440, Martin 202, 404 and Gulfstream 159.

Q. Thank you.

For my next questions, I want you to keep in mind the date of this accident, July 2, 1963, and all my questions will relate to your duties with Mohawk prior to that time.

[Tr. 1227] Will you tell me what your job as flight manager encompassed in general while you were with Mohawk?

A. In general, it consisted of supervisory pilot duties and pilot instructing, as well as administrative functions, technical writer, various other duties that—

Q. Would your training of pilots consist of both pilots flying on the line for Mohawk and also pilot applicants?

A. We trained all the pilots, yes.

Q. Did you conduct any ground school courses?

A. Yes, we conducted ground school, too.

Q. Can you tell me, to the best of your recollection, what subjects were encompassed in the ground school courses which you taught?

A. Well, just about every area of pilot knowledge was covered during our ground school indoctrination.

Q. Was there any training given with respect to meteorology and weather?

A. Yes, we had specialists usually that taught these areas. However, we did cover them, these areas in so far as reviewing pilots' knowledge and retention of the information in these subjects when we conducted recurrent training and periodic evaluations.

[Tr. 1228] Q. Did the training which Mohawk provided their pilots in meteorology and weather include the way to read and interpret aviation observations and forecasts?

A. Yes, it did.

Mr. MURRAY: May the witness have Exhibit 22 at this time, please.

(Whereupon the exhibit was submitted to the witness.)

By Mr. MURRAY:

Q. Mr. Loudin, would you, as a pilot, please give me your interpretation in the light of Mohawk training as you understood it of the expression on there, "frequent lightning cloud to ground."

I should say the abbreviation which I think is undisputed means, "frequent lightning cloud to ground."

A. That is correct.

Well, it would indicate the presence of a mature severe thunderstorm.

Q. And with respect to the positioning of the lightning, if this was an actual observation, Exhibit 22, can you tell me what it would look like?

A. What the lightning would look like?

Q. Yes, sir.

A. Well, there would be barbs of lightning emanating

[Tr. 1229] from the clouds and seeking a ground—it would go to ground. So there would be vertical slanting barbs out of this thunderstorm going to the ground, disappearing.

Q. While you were with Mohawk, did you participate in flight checks of their pilots?

A. Yes, I did.

Q. Was the training which you gave Mohawk's pilots intended to be used by their pilots on the line operations?

A. Yes, it was.

Q. Would you please describe for us generally what if any training the Mohawk pilots were given with respect to flying in thunderstorms?

A. Well, it was basic to avoid a thunderstorm, certainly not take off or land in one, avoid them whenever possible. That was the policy.

Q. Now, what was your understanding of the reason underlying this policy?

A. Well, because thunderstorms are dangerous to flying and they complicate the situation of flying, they are uncomfortable, and there are any number of reasons you wouldn't want to fly near or through one. Lightning, for example.

Q. What were the characteristics of a severe thunderstorm as you understood it from the pilot's standpoint?

[Tr. 1230] A. Well, the characteristics of a severe thunderstorm are rather severe vertical and horizontal shears, lightning, the possibility of hail; in any severe thunderstorm there is always the possibility of tornadic action.

Q. You testified that the pilots were trained to avoid taking off in thunderstorms.

What if any alternative was given them in their training?

A. Well, the only alternative would be to wait.

Q. When you say, "wait," you mean wait on the ground?

A. To wait or if departures could depart early, if thunderstorms were expected to come—this was about the only reason that you could depart a flight early, to avoid thunderstorms.

• • • • •

[Tr. 1231] Q. Were all of Mohawk's Martin 404 aircraft, as of July 2, 1963, equipped with radar?

A. They were.

[Tr. 1232] Q. Were the pilots instructed in the use of radar?

A. Yes, sir.

Q. Can you tell me, under Mohawk's training and procedures at that time, what was the purpose of the radar in the aircraft?

A. It was primarily used as a weather radar, or weather avoidance radar.

Q. Were there any requirements as to when it would be utilized?

A. Well, the captain would—is required to have it checked whenever thunderstorms are forecast to be of concern along his route or the possibility of thunderstorms, then the radar had to be checked to determine that it was functioning properly before the take-off was made.

Q. Can you tell me how the pilot was to go about checking the radar before the take-off was made?

A. Well, he had to turn it on, of course, and it was a warm-up period. Then when you are in a clear area, you could start the transmitter.

The COURT: You could what?

The WITNESS: Normally, in the stand-by position, you have a warm-up delay. Also, it had a built-in delay if you tuned it in on the "On" position, it wouldn't come on; [Tr. 1233] it had a built-in timer so you wouldn't damage the radar. Normally go in the stand-by position for three to five minutes and then it would be all right to turn it to "On" position.

And then he would have to tune it, like you would a TV set in order to get the best definition and adjust your antenna to the most desirable position so that you could check to see that you were receiving targets on it.

By Mr. MURRAY:

Q. You used in your answer immediately preceding this one, the expression, "an open area." Do you recall this?

A. Yes.

Q. Now what do you mean by an open area when you could check the radar? Can you tell us what type of area you had in mind?

A. Well, you wouldn't want to turn the transmitter on in proximity to, say, a fueling operation, a fuel truck, or people, because of the high radiant energy. You could start a fire and explosion or injure someone. So, therefore, if your antenna was turned in a direction that was clear, you could turn it on and check.

Q. When you say, "clear," what I wanted to get is some kind of distance either in feet, yards or miles at which stage [Tr. 1234] it could be checked.

A. Oh, I mean clear of people or fuel trucks or other aircraft. You could turn it on and pick up from objects on the ground or in the air.

Q. Just so I understand you there: You could turn it on on the ground and pick up permanent objects in the air, is that what you are saying?

A. That is correct.

Q. How would this be accomplished?

A. To pick up targets in the air?

The COURT: You are on the ground now.

By Mr. MURRAY:

Q. Yes, when you are on the ground.

A. Well, you just tune your radar, adjust your antenna.

Q. How do you adjust the antenna? Will you explain that?

A. You can adjust it between plus and minus fifteen degrees above the horizontal. So you have to turn it up, of course, when you are on the ground, to receive air targets. Of course, the air targets are about the only thing you could pick up would be thunderstorms, for example.

[Tr. 1235] Q. Now, if you tilted the antenna the maximum fifteen degrees up, can you tell me, based on your experience with this radar, at what altitude you would be scanning at, say, five miles from the airport?

A. Well, fifteen degrees would be one and a quarter

miles up, would be 7500 feet, wouldn't it; you could pick a target up at 7500 feet, a thunderstorm at 7500 feet if it was five miles away. The beam would intercept the thunderstorm at about 7500 feet.

Q. Describe for me what it would do further out, the further out you go, what would be the effect on the radar presentation?

A. At a full up angle of fifteen degrees?

Q. Correct.

A. At fifteen degrees, the height would be about a quarter of the distance, so at twenty miles, the beam would be, would intercept a thunderstorm at approximately 30,000 feet, at ten miles it would be 15,000 feet, and at five miles, 7500 feet.

[Tr. 1236] By Mr. MURRAY:

Q. Let me ask a general question. How would returns be reflected on the radar? Just generally, what would it [Tr. 1237] look like to a layman?

A. Well, there are two positions on the radar for weather: One is normal, and the other one is iso-echo or contour—I forget what it was called, but it is the same thing. They are the same thing, iso-echo and contour.

On the normal position a thunderstorm would be a bright blip on the scope, and the position on the scope, from the position it was on the scope, you could determine the distance and bearing that this target was from you.

Now, in the contour or iso-echo position, the radar had a circuit that cut out the strongest returns, and in a thunderstorm, of course, this would be the area of highest rainfall gradient associated with the most severe turbulence, and this area of the scope would be blacked out. There would be a hole, a dark hole.

Q. How would you then use that information of the dark part?

A. Well you would use this iso-echo or contour position to evaluate the severity of the build-up.

[Tr. 1241] The COURT: That isn't the question, however.

You had a visibility given you by the Tower of a mile, and the pilot looks out and he thinks it is three-quarters of a mile. Was he trained to call in and find out whether his eyesight was better than the Tower? Was he required to do that?

[Tr. 1242] The Witness: He wouldn't be concerned as long as it wasn't below his minimum.

The COURT: Answer my question.

Is he required to do that? Was he required to call in under those circumstances? He sees it is three-quarters of a mile and he was told by the Tower it was a mile. Is he required by sound operating practice to call the Tower?

The Witness: Other factors notwithstanding, no.

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Q. Were Mohawk pilots during 1963 taught concerning the abort take-off procedure?

[Tr. 1243] A. Yes, they were.

Q. Could you describe that procedure as it was taught to Mohawk's pilots?

A. Well, the decision to abort was made—when the decision to abort was made, the pilot manipulating the aircraft would close the throttles and actuate the reverse pitch levers, which would put the propeller blades in reverse pitch, and he would apply power in effect reversing the thrust of the propellers and it would stop the airplane. At the same time he would use the hydraulic brakes as necessary to bring the aircraft to a safe stop.

Q. Up to what point on his take-off roll can a pilot decide to abort the take-off?

A. Up to his decision speed.

Q. What is his decision speed?

The COURT: V-1, isn't it?

Mr. MURRAY: I want the record to be clear.

By Mr. MURRAY:

Q. Are you using it synonymously with V-1 speed?

A. Well, with reference to Mohawk procedures, they used

the V-1 speed for critical runway length, and they didn't adjust it for actual runway length. So, therefore, [Tr. 1244] they may be committing themselves too early.

Q. When you say, "they may be committing themselves too early," does this mean there is an extra margin of safety built into their computations?

A. No, I wouldn't say it was safety.

Q. What I want to know is, how does Mohawk differ from other carriers in computing V-1 or decisional speed?

A. Some carriers use what is referred to as the minimum runway V-1. Now, this means that under these conditions of taking off, weight, humidity, runway grading and wind, and other factors, that you can accelerate to this speed and then stop within the minimum runway required for that operation, and it may be only 5,000 feet.

That means you can operate under these conditions on a runway length of 5,000 feet. And let's assume that your V-1 is a hundred knots. At a hundred knots, you elect to stop just using brakes, no reversing, and still stopping within the 5,000 feet; or you can continue with one engine operative, accelerate the lift-off speed and cross the 5,000-foot point at fifty feet.

Now, if the runway was 10,000 feet long, you could see where your decision speed would be increased. But some operators do not adjust their V-1 speed for the actual [Tr. 1245] runway length.

Q. They use the minimum runway that they have in their operation?

A. That is correct.

Q. I see.

For this question I want you to assume the following facts: A fully-loaded Martin 404 aircraft is at the take-off end of Runway 28 at Rochester-Monroe County Airport, that runway is 5500 feet long, the airport has a mean elevation above sea level of 560 feet, the last reported temperature was 94 degrees, the last reported dew point 66, and the last reported wind 18 knots blowing in from the west-northwest.

Can you tell me approximately how many feet that air-

craft would travel down Runday 28 on its take-off roll before it reached V-1 or decisional speed?

A. Using the standard operating procedures——

Q. Correct.

A. —and computations——

.

[Tr. 1247] Q. Did you use the figure 42,950 pounds, approximately, in arriving at this computation?

A. Yes, I did.

Q. Assuming that figure, instead of my statement of fully loaded, and instead of my erroneous figure, can you tell me how many feet the aircraft would travel down the runway before reaching V-1 or decisional speed?

A. The minimum runway V-1?

Q. That is correct.

A. Just about 2500 feet.

Q. Now, did you compute it on a decisional speed basis?

A. Well, let me retract that. I'd say using standard operating procedures and normal computations, it would be—I am sorry—2,000 feet.

Q. Just so I am straight here. It would be approximately 2,000 feet in that instance, is that right, using the standard Mohawk operating procedures?

A. No, using standard Mohawk operating procedures, it would be more than that.

Q. Why, using Mohawk standard operating procedures, [Tr. 1248] would it differ from the figure you used of 2,000 feet?

A. Well, the take-off performance is predicated on applying maximum power at the beginning of the runway before you start your take-off roll.

Now, Mohawk doesn't use this method for take-off. They made a gradual rolling take-off.

Q. Was the gradual rolling take-off the normal procedure followed by Mohawk back in 1963, to the best of your recollection?

A. Yes, it was.

Q. Using the gradual rolling take-off in the situation

here rather than the full power brakes applied take-off, what effect would that have upon the number of feet necessary to reach V-1 speed?

A. Well, it would—I figured it out normal acceleration and everything about 2500 feet minimum.

Q. Mr. Loudin, were you in Court every day all of last week with the exception of Monday morning?

A. Yes.

Q. Did you hear the deposition testimony excerpts from the following witnesses read into evidence: Ground Witness Bettinger, Ground Witness Stoppelbein; the following passengers, Davenport and McAdam, and the stewardess, [Tr. 1249] Miss Miara, in so far as their testimony related to the weather conditions existing at Rochester-Monroe County Airport at or about the time Mohawk 112 was taking off on July 2, 1963?

A. Yes, I did.

Q. Having in mind their observations of the weather as reported in their depositions, do you have an opinion as to the effect which the weather that they described would have upon an aircraft, a Martin 404, which entered that weather while it was attempting a take-off from Rochester-Monroe County Airport Runway 28 on July 2, 1963?

A. Yes.

Q. Would you state what your opinion is in that regard?

A. Well, the effect on the aircraft where so many factors are involved here, first of all, as far as the specific humidity is concerned, you went from about a forty per cent condition to a hundred per cent in the torrential downpour that was described, which would contribute to about a ten per cent loss in power.

The vertical shear associated with the outpouring of the downdraft of a thunderstorm could have effectively reduced the air speed of the aircraft.

[Tr. 1250] The downdraft would appreciably affect the rate of climb of the aircraft.

Q. Affect it in which way?

A. By decreasing it, like driving up hill in an automobile. The pressure variations associated with the turbulence

would affect the pressure instruments to a degree that they would be unreliable in this condition. By the pressure instruments, I mean air speed, vertical speed and altimeter.

Q. Why would they be unreliable?

A. Because of the pressure variations within the thunderstorm that are associated with the turbulence. You have pressure variations.

I believe one of the expert witnesses testified about the pressure variations. And the pressure instruments are dependent upon static air pressure. They read static air pressure. So if the air pressure varies, then their readings vary.

Q. What would happen if a pilot relied upon those readings at the time he encountered this weather?

A. Well, they are unreliable.

Q. What would they tell him as opposed to what was actually happening?

A. Well, within the high pressure or downdraft of the [Tr. 1251] storm the static pressure would increase relative to the pressure outside, and his rate of climb and altimeter would indicate that he was going down, whether he was or not; and then his air speed would read lower than normal, his air speed indicator.

Q. Now, when you say, would read lower than normal, does that mean he would be flying slower than what it said there?

A. No, it would be indicating slower than what he was.

And one other factor.

Q. Go ahead.

A. The vertical—the vertical shear or acceleration that you encounter in a thunderstorm would increase the wing loading of the aircraft, in effect, increasing the weight of the aircraft.

Q. Are you aware that Mr. Stoppelbein testified on deposition, Page 17, that when the aircraft became visible to him, its attitude was between forty-five and fifty degrees pitch-up, and at that time the aircraft was one hundred to two hundred feet off the ground?

Did you hear this testimony while you were sitting here in Court?

[Tr. 1252] A. Yes.

Q. Do you have an opinion as to the cause of this attitude of the aircraft as described by Mr. Stoppelbein?

A. Because of the erroneous indications encountered in the thunderstorm on the pressure instruments, the loss of power.

Mr. GALIHER: Might I at this point interrupt the gentleman because it is obvious that he had no way of knowing what these instruments were showing at that time and I, therefore, object to the answer.

The COURT: Well, I am allowing him to give his opinion. I will let him give his opinion as to why he thinks the plane pitched up. Not as to what the readings of the instruments were but his theory is that the pressure changed and there were erroneous instrument readings of what kind?

The WITNESS: Well, the instrument readings were—if the pressure increases suddenly, the altimeter starts down rapidly and so does your vertical speed indicator, and your SB would read lower than your true indicated speed should be at your actual speed.

Now, with the decrease in pressure, just the opposite would happen. You would have an erroneously high indicated air speed in your altimeter and vertical speed indicators would [Tr. 1253] go up.

Q. Now, how would this result in the forty-five to fifty degree pitch-up attitude of the aircraft?

A. Well, the—I am only saying that these erroneous indications, if they are used as a reference, could cause the pilot to believe that he was descending rapidly when he was not. The loss of power in this high humidity. And the gusts, of course, would contribute to the high pitch-up position.

Q. Did Mohawk train its pilots as to any techniques which would avoid this type of attitude on take-off?

A. Well, for normal take-off, you would never assume an attitude that was forty-five degrees.

Q. Is that described as an unusual attitude?

A. Yes, it would be unusual for—in a take-off to reach a forty-five degree angle relative to the ground.

Q. Captain Loudin, what if any training did Mohawk give its pilots concerning the authority of the captain of an aircraft?

A. Well, the captain was the pilot in command and the other crew members were to follow his instructions and all his orders, legal and lawful orders, were to be obeyed.

[Tr. 1254] Mr. MURRAY: One moment, please.

Just one further question.

By Mr. MURRAY:

Q. Going back to the forty-five to fifty degree pitch-up, could that be caused, in your opinion, by actions of the person flying the plane, along with the weather, or by the weather alone?

A. No, the pilot would have to put it in that position.

Q. How does he go about doing this?

A. By manipulating the controls.

Q. What would the pilot do in such a situation when he believed he is going down?

A. Pull his nose up.

Mr. MURRAY: No further questions, Your Honor.

* * * * *

[Tr. 1255] Q. Isn't it a fact that you have taken the operating manual with Mr. Murray or perhaps Mr. Silverman or perhaps Mr. Tait and gone over this section-by-section in discussing this, preparing for your testimony here today?

A. Well, they gave me some information to review and refresh my memory on.

* * * * *

[Tr. 1257] Q. And it is true, is it not, that many times planes came in and landed at Rochester Airport—and as a matter of fact other airports—where there were thunderstorms in the vicinity?

That did not keep a pilot from either taking off or coming in for a landing, did it?

A. Yes, it did.

Q. You mean to tell me that if he could circumnavigate the thunderstorm that he was still required to stay on the ground?

A. Well, some of our captains didn't want to take this responsibility of making the decision.

Q. I am asking you if you had a requirement that would keep him on the ground under those circumstances?

A. No, we didn't have a requirement, no.

Q. It was up to the judgment and discretion, then, of [Tr. 1258] the pilot, was it not?

A. That is correct.

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“In the event radar become inoperative en route, the flight may continue if it is possible to avoid reported areas of thunderstorm turbulence.”

That is likewise a provision that was available and used by the pilots and by Mohawk, was it not?

A. Yes, I believe that is true.

.

[Tr. 1259] Q. You were discharged by Mohawk approximately two months after this accident, were you not?

A. No, sir.

Q. When did you leave Mohawk?

A. I believe it was the first of August, August the 7th, I think, 1963.

Q. And you now have a lawsuit against Mohawk Airlines in which you charge them with libel and slander, among other things, do you not, which is pending in the courts?

A. Yes, sir.

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16. EXCERPTS FROM DEPOSITIONS PURSUANT TO DEFENDANT'S
EXHIBIT 3

DEPOSITION OF HERBERT SILVERA

[Tr. 960] Q. You said that radar equipment had the capability of receiving returns while the aircraft was on the ground as well as it was in the air?

A. That is correct.

[Tr. 962] Q. Does the before starting engine check list require the radar equipment be turned to a position which will warm it up before leaving the ramp?

A. Yes.

[Tr. 1044] Q. Had you, on occasions prior to July 2nd, 1963, received take-off clearances from Air Traffic Control [Tr. 1045] facilities?

A. Yes.

Q. On those occasions were you required to take off upon receipt of the take-off clearance, and I put the emphasis on the word "required to take off"?

A. No.

[Tr. 1063] Q. According to this paragraph as you understood it at that time, was Air Traffic Control at Rochester Monroe County Airport authorized to deny a take-off clearance to an aircraft carrying fare-paying passengers when that aircraft requested a take-off clearance and at the time when the prevailing visibility would not be less than a quarter of a mile but was a quarter of a mile or higher?

A. That would be no then.

DEPOSITION OF HERBERT H. HOLMES

[Tr. 1130] Q. Your recollection having been refreshed, what did you say to Mr. McIntyre?

A. I advised him that the return was the largest I had ever observed on radar.

[Tr. 1136] Q. Did you at that time have any opinion as to whether the second line of thunderstorm might be relevant to the safety of other aircraft?

A. Yes.

Q. What was your opinion at the time, in this regard?

A. It could constitute a hazard to flight.

DEPOSITION OF ROBERT C. BAKER

[Tr. 1924] Q. What was the passenger capacity for Flight 112?

A. It was a Martin, 44 passengers.

Q. 44 passengers?

A. Yes. Well, I will take this back now that I remember this airplane. This was an airplane that was, I believe, had 40 seats in it.

Q. 40 passengers was its capacity?

A. Yes.

Q. So that when you signed this release, were you aware that reservations had booked the passenger capacity for the aircraft for that flight?

A. Yes. If this was—this would have been on the release, 40 passengers, which would have been full capacity for the airplane.

[Tr. 1931] Q. What was the purpose or function served by the first message sent by Mr. McIntyre at 2:53 p.m.?

A. This was just a breakdown or a combination of, I believe, a severe weather message from Kansas City and, I believe, another message from Cleveland weather, that have the particular weather that could be expected. [Tr. 1932] And this is just a combination of the two sent out to our stations, more or less a composite of the two.

Q. For what purpose was it sent out to your stations?

A. For pilot information and station information.

Q. The second message was sent out at 3:45 p.m., it bears your name and Mr. McIntyre's name?

A. Yes.

Q. That was also disseminated to Rochester?

A. It would have been sent to all stations, yes.

Q. What purpose did that message serve?

A. This was a message for all stations concerning ATC delays, possible thunderstorm activity and turbulence aloft.

[Tr. 1954] Q. I am referring to Plaintiff's Exhibit 19-C for identification, the McIntyre-Baker message at 3:45 p.m.

A. Right.

Q. Does that message mention "winds and turbulence aloft, all portions of routes"?

A. Yes. And it's still in association with thunderstorm activity.

Q. Would you read the entire message into the record?

A. "Expect numerous thunderstorm activities this afternoon and evening accompanied by strong gusty surface wind, and turbulence aloft all portions of route. Expect all flights routine but en route delays due to ATC and circumnavigating thunderstorms as activity increases."

[Tr. 2060] Q. On July 2, 1963, did you have the capacity to communicate with the crew in the cockpit of Flight 112, before its take-off through the use of either the hot line or the telephone line, to the Rochester Operations Office of Mohawk, and then have them relay the information on 130.0 megacycles to the cockpit?

A. I had the ability, yes.

[Tr. 2061] Q. If you received this Weather Bureau special of 4:42 p.m., as contained on Plaintiff's Exhibit 40-A for identification, at a time before you were advised that an accident had occurred to that flight, what procedure, if any, would you have followed?

Mr. O'SHEA: I think this is highly conjectural and based on a hypothesis and is improper in form.

Mr. SINCOFF: The foundation of which is already in the record, Mr. O'Shea.

Read the question, please.

(Whereupon, the last question was read.)

A. I don't know that I would have followed any procedure. The weather was at Rochester, I was at Utica, the station and the flight was at the weather. I don't believe I would have called Rochester and say, "You got a thunderstorm."

DEPOSITION OF PATRICK JOSEPH MURRAY

[Tr. 1210] Q. Did you tell Richard Dennis everything that you had heard on the radio?

A. My conversation with Captain Dennis was very brief, and I indicated only that there had been tornado warnings, and I believed—I am certain that I mentioned that there were—we were in for a real severe thunderstorm.

[Tr. 1229] Q. When you checked the flight plan, did you read it or did you say anything, or both?

A. I read it.

Q. Did you say anything?

A. No, I don't believe I did.

Q. You say there was weather present?

A. Yes, there was, sir.

Q. By that you mean weather documents?

A. Yes, sir.

Q. Where were they?

A. Laying next to the flight plan.

[Tr. 1250] Q. I believe you said that you started out of the Operations Office at about 4:41 or 4:42?

A. Yes.

Q. At that time what did you observe about the weather?

A. It was becoming dark. There was a light sprinkle.

Q. Of rain?

A. Of rain, right. Well, the rain started actually going—as far as minutes, I couldn't really tell you. It was just starting to sprinkle as the aircraft was pulling away from the gate. As I was coming out from [Tr. 1251] Operations there may have been some rain falling, I don't know.

Q. To the best of your recollection, as you walked from

the Operations Office toward the aircraft, was there any rain falling at that time?

A. I don't remember.

Q. Was there any thunder at that time?

A. I don't believe so.

Q. Was there any lightning at that time?

A. Yes, there was some lightning.

Q. You said it was becoming dark?

A. Yes, it was dark.

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Q. To the best of your recollection, Mr. Murray, where was the darkness that you observed as you were walking toward the aircraft between 4:41 and 4:42 p.m.?

A. It was from the north.

.

[Tr. 1253] Q. You left the aircraft at approximately 4:44 p.m., I believe you said?

A. Yes.

Q. Then walked from the rear of the aircraft toward the front of the aircraft and gave your salute?

A. Yes.

Q. At that time was it raining?

A. Yes.

Q. What was the nature of the rainfall at that time?

A. Light, sprinkle.

Q. Did you see lightning at that time?

A. I can't recall.

Q. Did you hear thunder at that time?

A. To the best of my recollection there was thunder, yes.

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[Tr. 1259] Q. To the best of your recollection, now, was it thundering at the time Flight 112 started to depart from the gate, to the best of your recollection?

A. Yes.

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[Tr. 1267] Q. As it was taxiing from its stationary position at the gate and during the time you watched it up until the time you last saw it, was there thunder?

A. Yes, there was some thunder.

Q. During the same period of time, as you watched it, was there lightning?

A. Yes.

Q. Was there wind?

A. Yes, there was.

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[Tr. 1268] Q. Immediately after entering the Mohawk Operations Office, after observing Mohawk Flight 112 for the last time, what did you do?

A. Nothing. I entered the office. That was it.

Q. Then what did you do?

A. Stood there and looked out the window.

Q. As you watched out the window, did you see Mohawk 112 again?

A. No, I did not.

Q. What did you see as you stood there and looked out the window?

A. Rain.

Q. Was the rain different from or the same as the rain you saw while you were outside?

Mr. O'SHEA: Objection as to form.

A. It was different.

Q. What did you observe as you stood and watched out the window of the Operations Office?

[Tr. 1269] A. Rain had become heavier.

Q. Could you describe it further, please, by what you mean by heavy or heavier?

A. It was a constant downpour.

• • • • •

Q. How long did you stay at the window and look out, approximately?

What period of time?

A. Three minutes, four minutes.

Q. What did you observe during this three or four minute period of time?

A. It had become darker and the rain had become heavier, [Tr. 1270] more constant.

Q. Did you see any hail?

Mr. O'SHEA: Objection to the form.

A. I don't recall.

Q. Did you see lightning?

A. Yes.

Mr. O'SHEA: Same objection.

Q. During this period of time when you were in the Mohawk Operations Office, looking out, did you see any lightning?

A. Yes.

Q. What was the frequency of the lightning during that period?

A. I cannot recall.

Q. Was it more frequent, less frequent or the same frequency as the lightning you had observed previously?

Mr. O'SHEA: Objection as to form.

A. It was more frequent.

Q. How far could you see during that three or four-minute period of time?

A. 100 yards.

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[Tr. 1301] Q. In addition, to preparing the flight plan for Mohawk Flight 112 that day, were either you or Mr. Curtis required to attach to the flight plan any document or documents, and by attach, physically attach?

A. Yes.

Q. Was there a procedure outlined in the Operations Manual with regard to what documents were supposed to be attached to the flight plan?

A. Yes.

Q. Was there also a procedure in the Civil Air Regulations specifying what documents were required to be attached to the flight plan?

A. Yes.

Q. What documents were required to be attached to the flight plan for Flight 112 pursuant to the Civil Air Regulations?

A. Oh, may I have a copy of the release, please, on Flight 112?

[Tr. 1302] I am sorry; I have it here. You would have to have the weather for Rochester, White Plains, Newark, Hartford and Teterboro.

Q. What weather?

A. The latest available weather.

Q. What does that mean, sir?

A. Which would have been the four o'clock regular sequence of weather.

Q. Anything else required to be attached to the flight plan for Flight 112 that day pursuant to the Civil Air Regulations?

A. Terminal forecast for the cities mentioned, any Notams, Sigmetas that might affect the path of the Flight 112.

* * * * *

[Tr. 1318] Q. Did you, in Mohawk's office at Rochester, have any way of knowing whether the United States Weather Bureau's office at Rochester had in fact disseminated weather changes during the hour?

A. No.

Q. If you had a Telautograph machine in your office at that time, that is, the Mohawk office, would you have known that?

A. Yes.

Q. But you had no such machine in your office at that time?

A. No.

Q. If you had received information issued by the Rochester Weather Bureau Office of the change in weather con-

ditions during the hour, would you have advised any aircraft still on the ground of that information?

A. Yes.

Q. If you had received from the Weather Bureau information that a thunderstorm had started before an aircraft took off, would you have taken steps to advise that aircraft?

A. Yes.

Q. If the aircraft had not departed the gate [Tr. 1319] what would you do under those circumstances?

A. I would have notified—if it was a severe change—I would have notified our Dispatch Office who could talk it over with the captain.

Q. If the captain was in the cockpit of an aircraft still at the gate when such information of a weather change was received from the Weather Bureau, would you tell the captain?

A. Yes.

Q. In your previous answer you referred to a severe weather condition?

A. Yes.

Q. Was a thunderstorm a severe weather condition which would prompt you to advise the crew of an aircraft still at the gate but in the cockpit?

A. Yes.

Q. In addition to advising the crew would you also advise Utica Dispatch; is that correct?

A. Yes.

Q. If you receive such information from the Weather Bureau at Rochester via the Telautograph or any other way at a time when an aircraft was taxiing toward an active runway, did you have means available to you that day in the Mohawk office to communi- [Tr. 1320] cate with the aircraft?

A. Not directly, no.

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[Tr. 1325] Q. Mr. Murray, on that day were you aware that Mohawk Flight 112 had two radios available to it in the cockpit?

A. Yes.

Q. On the basis of what you heard that day, Mohawk Airlines 112 was communicating with the tower on one frequency, the local control frequency; is that correct?

A. Yes.

Q. You have no knowledge that day as to whether or not Mohawk Flight 112 had the other radio tuned to the company radio frequency; is that correct?

A. No.

Q. Is that correct?

A. That is correct, yes.

Q. At no time that day did you attempt to speak to Mohawk Flight 112 on that company radio frequency, did you?

[Tr. 1326] A. No.

Q. At no time did you call the tower that day in an attempt to get in touch with Mohawk Flight 112, did you?

A. No.

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[Tr. 1340] Q. From the time you came on duty until the time of the accident, is it fair to state that the only information received from Utica with regard to Flight 112 or with regard to flights in general, was the information contained in Plaintiff's Exhibit 19-A, that severe weather warning on which Mr. McIntyre's name appears; is that correct?

A. Yes.

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DEPOSITION OF RICHARD L. CURTIS

[Tr. 1454] Q. Yes, through the day, as the Service A machine operates, it presents in teletype fashion a number of various items of weather, among which is the hourly sequence; is that correct?

A. Yes.

Q. It also presents, does it not, hourly PIREP summaries?

A. Yes.

Q. Area forecasts?

A. Yes.

Q. Terminal forecasts?

A. Yes.

Q. Sigmets?

A. Yes.

Q. Kansas City severe weather warnings and [Tr. 1455] forecasts?

A. Yes.

Q. Anything else that you can recall?

A. It also presents winds aloft?

Q. Anything else?

A. And any amendments to forecasts or SIGMETS or—

[Tr. 1528] Q. Did you see Mohawk Flight 112 on the taxiway near Runway 28?

A. Yes.

[Tr. 1529] Q. To the best of your recollection, did you see [Tr. 1530] lightning when the aircraft was in that position? That is, your present recollection.

A. Yes.

Q. Did you hear any thunder at that time?

A. To the best of my recollection, I would say there was some thunder.

Q. Where was it coming from?

A. I would assume from the northwest.

Q. Is your last answer based on what you heard?

A. Yes.

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DEPOSITION OF GORDON G. STOPPELBEIN

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[Tr. 28] Q. —When you first saw this aircraft was the intensity of the storm the same throughout your entire vision?

A. No, sir, no. It was the majority of the storm had moved to the east of the north and south runway, and it was clear, and visibility was extended over to the northwest which would be the west side of the north and south runway.

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[Tr. 29] Q. (Mr. Wagner cont'g) What value would you give to the visibility to the west at this time? You just said it was extended, and I wonder if you could approximate for us.

A. Yes; I would say a mile and a half; a mile to a mile and a half.

Q. And that was in the west, northwest?

A. Yes, northwest from my position.

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DEPOSITION OF CARL A. DiSTASIO

[Tr. 2687] Q. Can you tell me what the visibility was in so far as miles are concerned at the time that Mohawk Flight 112 started to take off?

A. Well, I believe I stated that the current value, which I believe, as far as visibility was concerned, was reported as eight miles, and I said that it might have been seven or six, but not less than four miles.

[Tr. 2761] Q. Rather than reading into the record what appears there, what was your understanding of a clearance?

A. It's an authorization to proceed as far as known traffic conditions permit.

Q. The definition of air traffic clearance, or clearance as it's contained in Section 120, does it make any mention of weather?

A. No, sir.

Q. Does it state the purpose of an air traffic clearance, or clearance?

A. Yes.

Q. What was the purpose of an air traffic clearance or clearance?

A. For preventing collision between known aircraft.

[Tr. 2767] Q. Who had the responsibility—strike it. Upon receipt of request for a takeoff clearance, and the issuance of a takeoff clearance at that point, who had the responsibility to determine whether or not to accept the takeoff clearance.

A. The pilot.

Q. Did he have the sole responsibility in that regard?

A. Yes.

[Tr. 2784] Q. Were you a weather observer, sir?

A. No.

Q. Did you receive any training as a weather observer?

A. No.

Q. Would you refer to Section 414.2?

A. I have it.

Q. Were you a qualified visibility observer?

A. Yes.

Q. Were you qualified to report and observe visibility only?

A. Yes.

Q. Were you qualified to observe and record and report anything other than visibility?

A. No.

[Tr. 2785] Q. Did you, on July 2, 1963, while you were at the Local—while you were at the ground control position, and with regard to Flight 112, perform any function whatsoever with regard to visibility observations?

A. No.

Q. Whose duty, if anyone's, under the particular circumstances, was it to observe visibility conditions?

A. The local controller's.

Q. Were there prescribed circumstances under which he was obliged to describe visibility?

A. Yes.

Q. Under what circumstances was he obliged to observe visibility?

A. When the visibility was below four miles.

Q. But visibility—by visibility, do you mean prevailing visibility?

A. Yes.

Q. Is prevailing visibility a special term with a special definition?

A. Yes.

Q. Is that special definition contained in some manual?

A. Yes.

Q. What manual?

A. Circular N, Weather Bureau Circular N.

[Tr. 2786] Q. Does visibility mean—strike it. Does the

words "prevailing visibility", mean the visibility that can be seen in only one direction?

A. No.

Q. What does it mean?

A. Well, it means the visibility that can be attained or surpassed throughout half the horizon circle.

Q. In order for an observer, qualified observer in the Tower to observe prevailing visibility, must he look in all portions of the horizon?

A. No.

Q. In what portions must he look in order to arrive at prevailing visibility?

A. Well, he must determine the—well now, he must look in all quadrants.

Q. I see. He must look in all directions?

A. Yes. He must determine the highest visibility throughout half the horizon, and the only way he can do is to observe all quadrants, or sections, depending on how he divided them.

* * * * *

[Tr. 2795] Q. Sub-section B of 431.6 of this manual states, "To IFR Flights—when the ceiling and/or visibility is less than that published as the highest takeoff minimum for the airport." Is that correct?

A. Yes.

Q. Under what circumstances, if any, were you obliged, or required to report ceiling and visibility to an IFR Flight [Tr. 2796] such as Mohawk Flight 112?

A. Only if the ceiling and/or visibility went below the highest takeoff minimum for Rochester.

Q. What was the highest takeoff minimum for Rochester at that time?

A. Ceiling, three hundred; visibility, one mile.

* * * * *

[Tr. 2804] Q. What is the general rule, and where does it appear?

A. In this paragraph.

Q. 411.2?

A. Yes.

Q. What is the general rule?

A. "Denial of clearance for an air craft to land or take off shall be based solely on considerations of traffic."

Q. Does traffic have anything to do with weather conditions?

A. No.

Q. Would you kindly refer to—strike it. The general rule is as you have read it?

A. Yes.

Q. And there are three exceptions to the general rule, namely those appearing in 205.4 and 411.4 and 431.7?

A. Yes.

Q. Would you kindly refer to Section 205.4 or the first exception to the general rule?

A. 205.4? I have it.

Q. You have Section 205.4?

[Tr. 2805] A. Yes.

Q. This is entitled "Requests for Special VFR Operation"?

A. Yes.

Q. Did Mohawk Flight 112, at any time it was on your frequency, request a special VFR operation?

A. No.

Q. At all times, did Mohawk 112—at all times that Mohawk 112 was on your frequency, was it an IFR or instrument flight rules operation?

A. Yes.

Q. Was Section 205.4 unapplicable by reason of the fact that Mohawk 112 was not a special VFR operation?

A. Yes.

Q. Now, sir, would you refer to the section exception to the general rule, as it appears in Section 411.4? Do you have it?

A. Yes.

Q. Section 411.4 refers to closed runways?
 [Tr. 2806] A. It does.

Q. Was Runway 1028—strike it. Was Runway 28 a closed runway on that date?

A. No.

[Tr. 2810] Q. Now, sir, will you kindly refer to Section 431.7 for the third exception to the general rule concerning denial of takeoff clearance?

A. I have it.

[Tr. 2811] Q. Now, with regard to Section 431.7, it was three sub-divisions which specify the conditions under which a takeoff clearance shall be denied?

A. Yes.

Q. The first condition is Sub-division A?

A. Yes.

Q. "Runway visual range"?

A. Yes.

Q. Did Runway 28 have runway visual range in effect that day?

A. No.

Q. Runway visual range is some sort of mechanical system for VFR?

A. Yes.

[Tr. 2812] Q. It's descriptive of mechanical equipment?

A. It is.

Q. Was runway visual range equipped—runway visual range equipment installed and in existence on the airport that day?

A. No.

Q. Now, sir, Sub-division B refers to runway visibility?

A. Yes.

Q. Is runway visibility—strike it. Does runway visibil-

ity consist of two things, namely, runway visibility as determined by mechanical means and runway visibility as determined by the naked eye?

A. Yes.

Q. Was there, in force and effect that day, runway visibility equipment at Monroe County Airport?

A. No.

Q. Did Mohawk 112 at any time it was on your frequency, advise you of what its visibility was from the cockpit of that air craft?

A. No.

* * * * *

[Tr. 2816] Q. During the time Mohawk 112 was on your frequency, what was the prevailing visibility for the airport?

A. In the time I was talking to Mohawk 112, the prevailing visibility, as far as I was concerned, was eight miles.

* * * * *

[Tr. 2817] Q. There are two messages there?

A. Yes.

Q. What do both show with regard to visibility?

A. Eight miles.

Q. Now, sir, Sub-division C of 431.7 refers to prevailing visibility of less than a quarter of a mile?

A. Yes.

Q. Right. Now, what is the next reportable visibility below a quarter of a mile?

A. Three sixteenths.

Q. Now, when you refer to Exhibit 40-A, it shows a message received at four fifty-two P.M.?

A. Yes.

Q. What is the visibility value as reflected by that document?

A. One half miles.

Q. Were you aware at any time, either before or after the accident, and within thirty minutes of the accident on both sides of the time of the accident, of any visibility, of the prevailing nature, of less than a quarter of a mile?

A. No.

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DEPOSITION OF CARL A. DiSTASIO

[Tr. 2954] Q. Now, runway visibility, as used in 431.7, that refers to visibility taken on the runway by the naked eye, or by some instrument, is that correct?

A. Yes.

[Tr. 2955] Q. It does not refer to tower visibility, does it?

A. No.

Q. Or Weather Bureau visibility, does it?

A. No.

[Tr. 2957] Q. Withdraw the question. Now, did you have in the tower on July 2nd, 1963, between four and five o'clock that afternoon, any method of establishing runway visibility for Runway 28?

A. We did not.

[Tr. 2958] Q. Did you on that day, at that time, have any method of determining runway visual range, or runway visibility for Runway 28?

A. No.

DEPOSITION OF CHARLES LEON SUFRIN

[Tr. 3187] Q. And are you contact with Aircraft departing from Rochester?

A. Subsequent to their departure, I'm in contact with them.

Q. As Departure Controller, you have no jurisdiction over aircraft arriving at the Airport or coming into the Airport?

A. Only in so far as I must affect co-ordination with Arrival Controllers to provide separation.

Q. Now, in this IFR Room where you were working on July 2nd, 1963, do you have radar?

A. Yes, we do.

Q. What is the purpose of the radar?

A. The purpose of the radar is to provide a service, well, primarily, to provide for the separation of air traffic.

[Tr. 3190] Q. What type of radar were you using that day, July 2nd, 1963?

A. ASR Terminal Radar.

Q. Does ASR stand for Airport Surveillance Radar?

A. Yes, they do.

Q. Was there such a thing known as Weather Radar?

A. Well, there is a Weather Radar.

Q. Was the ASR Radar that you were using weather radar?

A. No, it wasn't.

[Tr. 3204] Q. Were you at any time in contact, voice communication, with Mohawk 112?

A. I was not.

DEPOSITION OF STEPHEN R. RISSELL

[Tr. 514] The Witness: I am a raw materials buyer with the IBM Corporation.

Hearing Officer Madole: Do you have any aeronautical background?

The Witness: No, sir, I do not.

Hearing Officer Madole: On the day of July 2nd, 1963, were you a passenger on Mohawk Airlines Flight 112 at Rochester, New York?

The Witness: Yes, sir, I was.

[Tr. 516] Q. Did you notice any change in it from the time you arrived at the terminal until you boarded the airplane?

A. Yes, sir, I did. As the time for departure approached, it became more and more cloudy.

Q. Now, I wonder if you would give us your observations from the time that you left the terminal and got into the [Tr. 517] airplane?

A. Well, when I left the terminal and started to board the plane, it appeared—well, there were clouds, dark clouds in the sky, essentially, behind my shoulder as I boarded the plane but I think it was the north. The people that were boarding the plane seemed to be apprehensive about the weather because it seemed that they were crowding to get on the plane. And when I boarded the plane I heard that in rough weather you got a little smoother ride if you sit in the tail section. The Stewardess was on the top of the steps on the left-hand side and the—well, she was actually blocking the last two seats on the left. I paused just a second and she didn't move away so I just moved a little further up in the plane, took the first seat that was open,

which I found on the left-hand side of the plane near the window.

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[Tr. 519] Q. Now, between the time that the airplane left the ramp and arrived at the take-off point, did you notice any rain, lightning, thunder, hail?

A. I never noticed any lightning or thunder. I never heard or saw of either of those. I believe that just about as we approached the start of the runway, it started to rain. I remember that the rain made horizontal streaks across my window; not vertical streaks, horizontal streaks.

Q. Were you able to see the rain on the cockpit window?

A. Yes, I was. Wait, let me correct that. I was able to see the rain on the cockpit window when we started down the runway. I don't remember it before.

Q. Do you remember seeing the windshield wipers?

A. Yes, sir, very definitely.

Q. Will you give us your observations of the windshield wipers?

A. Well, Mr. Burnstein and I somehow got in the discussion, again as I said, the advisability of flying in this weather. And he expressed a concern whether a plane this size even would have windshield wipers. And as he started on the runway, I was able to watch the man on the right-hand side. One of the things that I specifically remember is him touching a knob and I think very shortly thereafter, the windshield wipers started to creep across the window of the cockpit.

[Tr. 520] Q. Were you in a position to observe the effect of these windshield wipers?

A. Yes, sir, I believe I was.

Q. Will you describe this?

A. Well, as someone stated, the water on that window before the windshield wipers started looked like there was a fire hose on the window. There was a great amount of

water coming off that window. The windshield wipers when they were on seemed to clear it up somewhat.

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Q. And from that point?

[Tr. 521] A. Well, the plane sounded normal. By then it was raining very hard. The plane seemed to take off in a normal manner, although the man sitting aside me again said to me, "Doesn't this seem slow? Come on, let's go." And I wasn't particularly concerned about the speed of the ship. And we took off and we had a—the wings were level. And then, all of a sudden, the plane seemed to tip sharply up on to its left wing. It seemed about—oh, I guess about a 90 degree turn from the axis of the fuselage and I became frightened right away. I guess something went through my mind that said well, at least we were high enough up so the wing span didn't touch. We had that altitude and I was able to watch the man on the right-hand side again. And when this happened, it was just after he had turned on the knob, which I thought to be the windshield wipers. He immediately grabbed the wheel and I believe turned it to his right. He now had both hands on that wheel and the plane then rotated what seemed to be 100 degrees in a clockwise manner over to its right wing, so that the right wing was down. And by now I was quite frightened and I had—I had started to pull my legs into my chest and I braced my feet against the seat ahead of me. Somewhere prior I had seen on the back of a card a brace position that I saw in a ditching procedure and I pulled my head into my chest and I covered my ears. I seemed to have a fear of getting hit on the ears, so I covered my ears with my hands and just as the [Tr. 522] plane rolled back. And at this point, the flight was on its left—right wing was down, excuse me. It rolled back counter-clockwise which seemed another 180 degrees on to its left wing down and at that point I closed my eyes. And the rest of the accident, I did not see.

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DEPOSITION OF RICHARD EUGENE SHIMEL

[Tr. 494] DIRECT EXAMINATION.

By Mr. SINCOFF:

Q. Would you state your full name for the record, please?

A. Richard Eugene Shimel.

Q. And your address?

A. 18 Pleasant View Place, Whitesboro, New York.

Q. Where is that town?

A. It's a suburb of Utica.

Q. How old are you, sir?

A. Thirty-three.

Q. By whom are you presently employed?

A. Mohawk Airlines.

Q. In what capacity?

A. Captain.

Q. Pilot of an aircraft, to state it another way?

A. Yes.

Q. For how long have you been employed by Mohawk?

A. Approximately five and a half years.

[Tr. 495] Q. On July 2, 1963, were you qualified to fly as a captain on Martin 404s?

A. Yes.

[Tr. 497] Q. Unless I specifically indicate otherwise, I will be referring to July 2, 1963.

A. Yes.

Q. On that day, were you the captain of Mohawk Flight 186?

A. I was the captain of Flight 186 from Buffalo.

[Tr. 498] Q. To Rochester?

A. 186 had originated in Toronto, but my particular participation was from Buffalo, yes sir.

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Q. What time did you depart from Buffalo as the captain of Mohawk 186?

A. At 1611, which would be 4:11.

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[Tr. 502] Q. Before departing from Buffalo for Rochester, [Tr. 503] did you brief yourself concerning the weather?

A. Yes. I availed myself of the weather data in the Buffalo station, in Operations.

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[Tr. 513] Q. Approximately what time did you touch down at Rochester?

A. Approximately 4:39.

Q. This was the Monroe County Airport at Rochester?

A. Yes.

Q. After touching down, did you taxi to the terminal?

A. Yes.

Q. Approximately what time did you arrive at the terminal?

A. At 4:41 p.m.

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[Tr. 597] Q. At approximately what time did you hear thunder for the first time while you were parked at the gate?

A. Approximately 4:45, 4:46.

Q. While you were parked at the gate, did you at any time see lightning?

A. Yes.

Q. At approximately what time, for the first time, did you see lightning?

A. Approximately 4:45 or 4:46.

Q. At the time you first saw lightning, was the Martin 404, Mohawk Flight 112, at the gate?

A. I don't know.

Q. Did you, while parked at the gate, see rain?

A. Yes.

Q. At approximately what time, for the first time, did you see rain?

A. Shortly after we saw the lightning and heard the thunder. It would be approximately 1646, '47.

Q. To put in a local time and lay terminology, the time that you first saw raindrops fall was approximately 4:46 or 4:47 p.m.?

A. Yes.

Q. When the rain first started to fall, will [Tr. 598] you describe what you saw, in terms of the rain?

A. May I refer to my previous statement on this?

Q. Could we first have your best present recollection?

A. Shortly after the recognition of the thunder and lightning, rain began to fall, accompanied by a sharp increase in wind velocity, hail. Then very intense rain, a downpour.

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[Tr. 599] Q. How long after the first raindrops fell was there heavy rain that started?

A. It seemed like less than a minute.

Q. Is that your best recollection?

A. Yes.

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[Tr. 664] Q. Did they train you that "hail may be regarded as one of the worst hazards of thunderstorm flying"?

A. Yes.

Q. Was that your understanding as of July 2, 1963?

A. Yes.

Q. In your opinion, was it dangerous to take-off [Tr. 665] in a thunderstorm where hail was falling on the aircraft?

A. Definitely.

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U.S. DEPARTMENT OF COMMERCE - WEATHER BUREAU												STATION			
SURFACE WEATHER OBSERVATIONS												Rochester, N. Y.			
												DATE			
												JUL 2 1963			
Type	Time (LST)	Sky and ceiling (Nautical miles)	Visibility (Statute miles)		Weather and obstructions to vision	Sea level pressure (mb)	Temp (°F)	Dew pt (°F)	Wind			Altimeter setting (mb)	Remarks and supplemental coded data	Observer	
(1)	(2)	(3)	Surface (4)	Tower (4a)	(5)	(6)	(7)	(8)	Direction (9)	Speed (10)	Change for wind shifts (11)	(12)	(13)	(14a)	(14b)
R 0057		0	7			150	75	67	→	4		998			AS
-		529	02404		61020	150	75	00900	67	803		4946P			AS
R 0157		0	8			144	73	67	→	6		996			AS
R 0257		0	7			137	71	67	→	5		994			AS
R 0357		0	3	3	CF	137	71	67	↑	7		994	614		AS
R 0457		0	2	2	GF	137	71	67	↑	7		994			AS
R 0557		0	4		H	134	75	67	↑	6		993			AS
S 0633		0	2 1/2	2 1/2	H				↑	7					AS
R 0657		0	3	3	H	134	77	69	→	8		993			AS
-		529	02308		48050	134	77	00900		900		49471			AS
R 0757		0	3	3	H	127	82	71	→	10		991			RF
R 0857		0	3	3	H	118	86	71	→	12		988			RF
R 0957		450	7			115	89	68	→	14		987	719 1100		RF
R 1058		500	7			112	92	66	→	14		986			RF
R 1159		ES00	7			101	92	67	→	12		983			RF
R 1257		ES00(1200)	7			090	92	67	→	15		980			RF
-		529	02308		61031	090	92	52770		67724		90952	49471		RF
R 1357		ES00(1200)	8			087	92	66	→	18		979			RF
R 1457		ES00(1200)	8			076	94	66	→	16		976			RF
S 1542		ES00	8		T				→	18					RF
S 1550		1880	1/2	1/2	TRW				→	12					RF
R 1657		1880	4		TRW	100	70	62	→	14		982			RF
S 1733		1190(300)	1 1/2	1 1/2	TRW				→	22					RF
R 1658		900(1340)	4		TRW	087	70	68	→	18		978			RF
S 1727		E350(1000)	10						→	19					RF
R 1758		350E750	12			083	69	64	→	14		977			RF
R 1856		350E750	12			085	71	65	→	13		978			RF
-		529	62313		69019	085	71	25670	65514	74820		30048	49568		RF
R 1957		1-00	12			089	69	65	→	9		979	FEN SC		RF
R 2057		1-00	12			092	67	65	→</						

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FORM 10B
(10-1-60)

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

SURFACE WEATHER OBSERVATIONS

STATION Rochester, N. Y.

DATE JUL 2 1963

STATION																						TOTAL OPAQUE SKY COVER	PRES- SURE BY THERMOGY	WIND 3-HR. CHANGE	WIND SPEED (MILES PER HOUR)	PRECIP- ITATION (INCHES)
TIME (L.S.T.)	STATION PRELIMINARY	DRY BULB (°F.)	WET BULB (°F.)	REL. HUMIDITY (%)	TOTAL SKY COVER	CLOUDS AND OBSCURING PHENOMENA																				
						LOWEST LAYER			SECOND LAYER			THIRD TOTAL	THIRD LAYER			FOURTH LAYER										
						AMT.	TYPE & DESC.	HEIGHT	AMT.	TYPE & DESC.	HEIGHT		AMT.	TYPE & DESC.	HEIGHT	AMT.	TYPE & DESC.	HEIGHT								
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41					
0512	29.395			76	00			0				00				00			0	8 015						
0517	29.385			82	00			0				00				00			0							
0522	29.355			87	00			0				00				00			0							
0527	29.355			87	00			0				00				00			0	6 040						
0532	29.355			87	00			0				00				00			0							
0537	29.345			79	00			0				00				00			0							
0542	29.345			77	00			0				00				00			0	6 010						
0547	29.325			70	00			0				00				00			0							
0552	29.300			61	00			0				00				00			0							
0557	29.290			50	11	Cu	45	0				10				10			1	7 655						
0602	29.280			43	55	Cu	50	0				50				50			5							
0607	29.250			44	77	Cu	ES0	0				70				70			7							
0612	29.220			44	88	Cu	ES0	2	Ac	120	8	0				80			8	7 070						
0617	29.210			41	88	Cu	ES0	1	Ac	120	8	0				80			8							
0622	29.180			40	88	Cu	ES0	1	Ac	120	8	0				80			8							
0627	29.240			76	10	CB	M34	4										10	3.020	.14						
0632	29.200			93	10	3	FS	9	7	CB	M34	10						10		.34						
0637	29.190			84	10	3	SC	35	7	AC	ET5	10						10		1						
0642	29.200			82	8	2	SC	35	6	AC	ET5	8				80		8	5.040							
0647	29.240			87	8	0	SC	35	8	CI	1	8				80		8								
0652	29.220			93	8	8	CI	1	0			80				80		8								
0657	29.220			73	3	3	SC	47	0			80				80		8	1.020							
0702	29.230			76	2	2	SC	45	0			20				20		2								
0707	29.210			75	00			0				00				00		0								

SYNOPTIC OBSERVATIONS

TIME (L.S.T.)	TIME (L.S.T.)	PRECIP. (INCHES)	SNOW FALL (INCHES)	SNOW DEPTH (INCHES)	MAX. TEMP. (°F)	MIN. TEMP. (°F)	WIND SPEED (M.P.H.)	STATE OF HEAVEN	SEA STATE & DIR.	SWELL DIR. & PERIOD	SURF. WAVE H. & P. DIR.	WATER TEMP. (°F)	SOIL TEMP. (°F)	STATION PRESSURE COMPUTATIONS
0652	0652	0	0	0	75	73								0056 0653 1255 1855
0657	0657	0	0	0	87	73		0						ATL. THERM.
0657	0657	0	0	0	77	71		0						CHRON. DIR.
0657	0657	0	0	0	94	77		0						TOTAL CORR.
0657	0657	0	0	0	94	77		0				52		STA. PRESS.
0657	0657	0	0	0	95	68		2						BAROGRAPH
0657	0657	0	0	0	71	63								DIR. CORR.

SUMMARY OF DAY (MIDNIGHT TO MIDNIGHT)

24-HR. MAX. TEMP. (°F)	24-HR. MIN. TEMP. (°F)	24-HR. PRECIP. WATER SQUV. (INCHES)	24-HR. SNOWFALL UNMELTD. (INCHES)	24-HR. SNOW DEPTH (INCHES)	PEAK GUST SPEED (M.P.H.)	THICK- NESS OF ICE ON WATER (INCHES)	PRODN. OF ICE LAYER (INCHES)	24-HR. MAX. WIND SPEED (M.P.H.)	24-HR. MIN. WIND SPEED (M.P.H.)	WATER TEMP. (°F)	24-HR. PRECIP. & THUNDER (INCHES)	24-HR. WIND SPEED (M.P.H.)	24-HR. WIND DIRECTION	24-HR. WIND GUST	24-HR. WIND SPEED (M.P.H.)	24-HR. WIND DIRECTION	24-HR. WIND GUST
95	63	48	0	0				93	40								

REMARKS, NOTES AND MISCELLANEOUS PHENOMENA

Total sunshine 6.38 Sunrise Fog Sunset CLOU
Fastest observed 1-minute wind speed 27 m.p.h.; associated direction NW and time: 1548 E
Excessive precipitation:

At (MINUTES)	5	10	15	20	30	45	60	90	100	120	150	180
PRECIPITATION (INCHES)												

CAMPAIGN TALK

MID T. 75 74 A FEW HAILSTONES - 5589
0051 89 74 TO 1 INCH NOTED 573
0650 76 71 1555E + 65
1250 95 76 ADET ACCIDENT 1549E 638
1850 95 67 NOTIFIED
MID 71 63 550458E = 0603 = +65 1550E
DAY 95 63 BAROGRAPH 1340E

Certified original record.

John M. Williams
Meteorologist in Charge
Rochester, New York

Plaintiff's Exhibit 43

Mohawk Airlines Flight 112
Rochester, New York
D/A: July 2, 1963

TRANSCRIPTION #2: Transcript of the original tape of Channel 1 and Channel 2, Rochester Control Tower, starting two or three minutes prior to the first transmission of Mohawk Flight 112. There were no apparent transmissions on Channel 2, which was assigned to Arrival Radar No. 1.

Legend: DR: Departure Radar
LC: Local Control
AA 453: American Airlines Flight 453
MOH 112: Mohawk Airlines Flight 112

Time (GMT)

20:46:03 LC: AMERICAN FOUR FIFTY THREE CONTACT DEPARTURE
CONTROL FREQUENCY ONE TWO ONE ZERO.

20:46:07 AA 453: ONE TWENTY ONE ZERO.

20:48:25 MOH 112: AND TOWER MOHAWK ONE TWELVE NOW READY TO
GO RUNWAY TWENTY EIGHT.

20:48:28 DR: RELEASE MOHAWK ONE TWELVE ON TWO EIGHT.

20:48:34 MOH 112: ROCHESTER TOWER MOHAWK ONE TWELVE.

20:48:36 LC: ROGER, ONE TWELVE.

20:48:39 LC: MOHAWK ONE TWELVE CLEARED FOR TAKE-OFF
RUNWAY TWO EIGHT

20:48:41 MOH 112: ROGER, WE'D LIKE TO MAKE A LEFT TURN OUT AS
SOON AS POSSIBLE THIS THUNDERSTORM IS COMING
IN FROM THE WEST.

20:48:46 LC: HE WANTS TO MAKE A LEFT TURN TO ONE EIGHTY.
IS THAT ALL RIGHT?

20:49:16 DR: GIVE HIM A LEFT TURN RIGHT OUT ON COURSE.

20:49:19 LC: O.K. YOU CAN MAKE A LEFT TURN ON COURSE
MOHAWK ONE TWELVE.

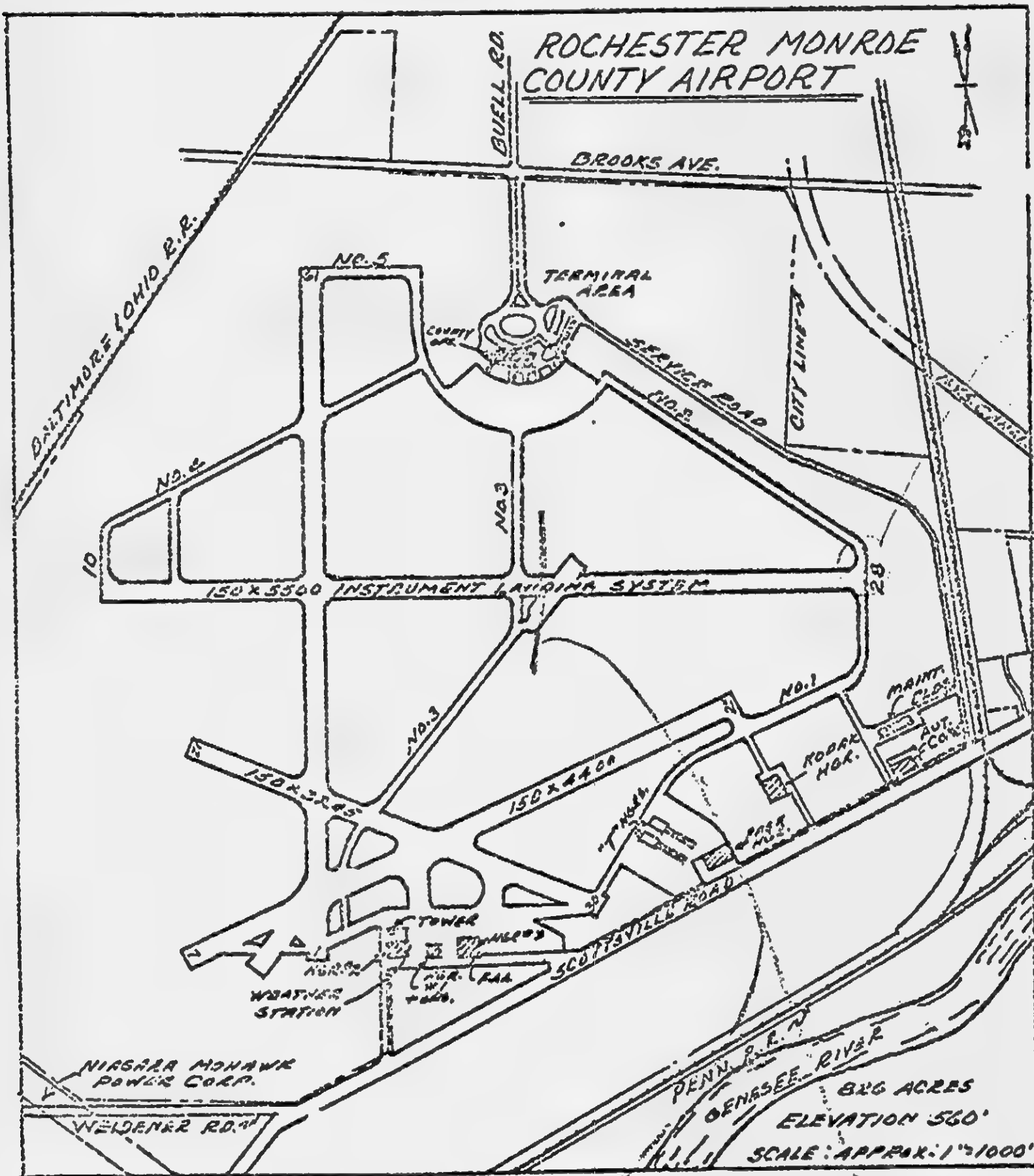
20:49:26 LC: MOHAWK ONE TWELVE, DELETE YOUR RUNWAY
HEADING MAKE A LEFT TURN ON COURSE. THE WIND
AT THE MOMENT IS THREE FOUR ZERO VELOCITY
ONE FIVE.

20:49:32 MOH 112: O.K., WE'LL MAKE A LEFT TURN OUT OF HERE
RIGHT AWAY.

20:49:35 LC: ALL RIGHT.



DEFENDANT'S EXHIBIT 9



Entered wall of rain
at this point

L.H.

Observation
from the end of
the runway.



Defendant's Exhibit 10—Translation of Weather Exhibits

Defendant Exhibit 1

U.S. Weather Bureau

Amended Terminal Forecast #1, circuit 8022, July 2, 1963

2:45 PM EDT

Valid from 2:45 PM EDT Tuesday to 7:00 PM EDT Wednesday

Rochester—ceiling 4,000 feet broken clouds, visibility 7 miles, wind west-southwest 16 knots, scattered thunderstorms. Possible briefly ceilings 500 feet sky obscured ½ mile visibility, heavy thundershowers, hail, wind from the west at 40 knots with gusts to 65 knots. Chance isolated tornado. 7:00 PM EDT cold front passage. 25,000 feet thin scattered clouds. Winds northwest 10 knots. Occasionally 4,000 feet scattered clouds until 9:00 PM EDT

Defendant Ex 6

Aviation Severe Weather Forecast

Weather warning Kansas City Urgent Kansas City Forecast number 315 July 2, 3:15 PM. EDT

Aviation Severe Weather Forecast

Area one—Tornado forecast

A—Along and 60 miles either side of a line from 60 miles southeast of Buffalo, N.Y. to 50 miles northeast of Burlington, Vt. Valid from 4:00 PM. EDT to 10:00 PM EDT. Public forecast issued.

B—Scattered severe thunderstorms with extreme turbulence. Hail to 1½ inches in diameter. Maximum surface gusts 65 knots. Possibility of an isolated tornado or two. Few cumulus buildups maximum tops 6000 feet.

C—Squall line forming in Ontario, Canada to vicinity of Buffalo and Youngstown, Ohio. Expected to intensify and move east-southeastward at 40 knots.

Defendant Ex 7*All Mohawk Stations*

Post for Pilots and pass to any flights into areas mentioned.

Weather Bureau severe weather forecast indicates along and 60 miles either side from 60 miles southeast of Buffalo, N.Y. to 50 miles northeast of Burlington, Vt., expect scattered severe thunderstorms with extreme turbulence, hail to 1½ inches in diameter and maximum surface gusts 65 knots. Possibly an isolated tornado or two. Squall line forming in Ontario, Canada, to vicinity of Buffalo and Youngstown, Ohio expected to intensify and move east south eastward at 40 knots.

Company pilot reports indicate a line of thundershowers through western Pennsylvania from north of Johnstown, Pa. extending southeastward and building rapidly. Expect these thundershowers to move eastward.

McIntyre, Flight Control, July 2, 1963, 2:53 PM EDT

Ex 22 Teleautograph Record

Special Observation 4:42 PM EDT

Ceiling estimated 5,000 feet overcast, 8 miles visibility thunderstorm. Thunderstorm northwest moving eastward. Frequent lightning cloud to ground, wind—northwest 18 knots. Observer 4:43 PM EDT.

Ex 22A

Date time stamp (reverse side of Ex 22-teleautograph record).

July 2, (2044) 4:44 PM EDT, 1963.

Ex 30 *Teleautograph Record***Special Forecast 2:50 P.M. EDT**

The Rochester Weather Bureau advises that scattered severe thunderstorms with locally damaging winds and hail and the possibility of an isolated tornado or two are expected in a general region including the Rochester area counties from 3:00 PM EDT until 9:00 PM EDT 2052 (initials)

1352 EST

Ex 31 *Teleautograph Record***Special Observation 4:52 PM EDT**

Ceiling measured 3,800 feet overcast, $\frac{1}{2}$ mile visibility heavy thundershowers, hail, wind east-southeast 12 knots. Thunderstorm, all quadrants $\frac{1}{2}$ inch hailstones.
Observer 4:55 PM EDT

Ex 32 *Teleautograph Record***Record observation 4:59 PM EDT**

Ceiling measured 3,800 feet overcast, visibility 4 miles thundershower temperature 70 F, dew point 62, wind east-northeast 14 knots. Altimeter setting 29.92 inches of mercury. Thunderstorm northwest moving eastward. Frequent lightning cloud to ground.

Observer 5:03 PM EDT

Ex 36 Hourly Sequence Reports

Area Sequence circuit 8022 July 2, 1963 2:00 PM EDT
Rochester—Ceiling estimated 5000 feet, broken clouds,
higher broken clouds 12000 feet, visibility seven miles,
1009.0 millibars of pressure, temperature 92 F, dew point
67 F, wind west-southwest 15 knots. Altimeter setting
29.80 inches of mercury.

Ex 36 Hourly Sequence Reports

Area Sequence circuit 8022 July 2, 1963
3:00 PM EDT

Rochester—ceiling measured 5000 feet, broken clouds,
higher broken clouds 12,000 feet, visibility eight miles,
1008.7 millibars of pressure. Temperature 92 F, dew point
65, wind west-southwest 18 knots. Altimeter setting 29.79
inches of mercury.

Ex 36 Hourly Sequence Reports

Area Sequences circuit 8022 July 2, 1963
4:00 PM EDT

Rochester—ceiling estimated 5,000 feet broken clouds,
higher broken clouds 12,000 feet visibility eight miles 1007.6
millibars of pressure. Temperature 94 F, dew point 66,
wind west-southwest 16 knots. Altimeter setting 29.76
inches of mercury.



No. 22,262

IN THE UNITED STATES COURT OF APPEALS FOR
THE DISTRICT OF COLUMBIA CIRCUIT

JOAN S. NEFF, Administratrix of
the Estate of JOHN W. NEFF,

Appellee,

v.

UNITED STATES OF AMERICA,

Appellant.

ON APPEAL FROM THE UNITED STATES DISTRICT
COURT FOR THE DISTRICT OF COLUMBIA

BRIEF FOR THE APPELLANT

EDWIN L. WEISL, Jr.,
Assistant Attorney General,

United States Court of Appeals
for the District of Columbia Circuit

DAVID G. BRESS,
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FILED DEC 30 1968

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Washington, D. C. 20530.

Nathan J. Paulson
CLERK

11

I N D E X

	Page
Statement of the issues presented-----	1
Statement of the case-----	2
Nature of the case-----	2
Statement of the facts-----	3
1. The history of the flight-----	4
2. Official weather information-----	10
3. The operation of the control tower-----	15
District court's decision-----	19
Statutes and regulations involved-----	20
Summary of argument-----	20
Argument-----	26
I. The district court erred in holding that Government personnel had a duty to give the crew of Mohawk Flight 112 additional weather information prior to take-off-----	26
A. The district court's "govern- ing rule" respecting the duty of Government personnel to transmit weather informa- tion to the flight is in error-----	26
B. Government personnel had no duty to advise the flight that the storm was expected to hit the field at take- off time, or to advise it of the contents of the special weather observation of 4:42 P.M.-----	32
C. Government personnel had no duty to give Flight 112 additional visibility information, or to deny clearance to the plane on the basis of visibility-----	37
II. Assuming, arguendo, that the controllers had a duty under the regulations to give Mohawk Flight 112 additional weather information before take-off, the breach of that duty was not a proximate cause of the accident-----	43
III. Plaintiff's decedent, John W. Neff, was contributorily negligent, and such negligence bars recovery-----	49
A. The take-off into a known thunderstorm-----	51

B. The failure to use the weather radar in the plane or to request additional weather information from the tower-----	52
C. The piloting of the plane by First Officer Neff without sufficient qualifications-----	54
D. The failure to abort the flight-----	54
IV. The misrepresentation exception to the Federal Tort Claims Act precludes the imposition of liability upon the Government because of the failure to convey weather information-----	56
Conclusion-----	64
Appendix of statutes and regulations-----	66

CITATIONS

Cases:

<u>Atchison, Topeka & Sante Fe Railway Co. v. Calhoun</u> , 213 U.S. 1-----	49
<u>Bartie v. United States</u> , 216 F. Supp. 10 (W.D. La.), aff'd, 326 F. 2d 754 (C.A. 5), certiorari denied, 379 U.S. 852-----	59,63,64
<u>Beech v. United States</u> , 345 F. 2d 872 (C.A. 5)-----	60,61
<u>Casey v. Ross</u> , 10 N.Y. 2d 834, 178 N.E. 2d 429-----	25,50
<u>Clark v. United States</u> , 218 F. 2d 446 (C.A. 9)-----	26,59,63,64
<u>Coates v. United States</u> , 181 F. 2d 816 (C.A. 8)---	56
<u>Conroy v. Saratoga Springs Authority</u> , 284 N.Y. 723, 31 N.E. 2d 197-----	50
<u>DeLange v. United States</u> , 372 F. 2d 134 (C.A. 9)---	60
<u>DeVere v. True-Flite, Inc.</u> , 268 F. Supp. 227 (E.D. N. Car.)-----	48
<u>Grabel v. Handro Co., Inc.</u> , 161 N.Y.S. 2d 998-----	50

ASTERISKS

Cases--Continued:

Page .

<u>Hartz v. United States</u> , 387 F. 2d 870 (C.A. 5)-----	21,26,27,28,29
<u>Hernandez v. United States</u> , 112 F. Supp. 369 (D. Hawaii)-----	56
<u>Hoggard v. Otis Elevator Co.</u> , 276 N.Y.S. 2d 681, 52 Misc. 2d 704-----	23,44
<u>Hungerford v. United States</u> , 307 F. 2d 99 (C.A. 9)-----	60,61
<u>Hunt v. Schultz</u> , 250 N.Y.S. 2d 378, 21 App. Div. 2d 743-----	25,49
<u>Indian Towing Co. v. United States</u> , 350 U.S. 61-----	29,58,61
<u>Ingham v. Eastern Air Lines, Inc.</u> , 373 F. 2d 227, certiorari denied, 389 U.S. 931-----	27,28,29,60,64
<u>Kimbar v. Estis</u> , 1 N.Y. 2d 399, 135 N.E. 2d 708-----	21,31
<u>Kullberg v. United States</u> , 271 F. Supp. 788 (W.D. Pa.)-----	42,48
<u>Leeds v. N.Y. Tel. Co.</u> , 178 N.Y. 118, 70 N.E. 219-----	49
<u>McGillie v. United States</u> , 153 F. Supp. 565 (D. N.D.)-----	56
<u>Marco Polo di Suvero v. Gem Window Cleaning Co., Inc.</u> , 17 N.Y. 2d 831, 218 N.E. 2d 317-----	25,50,55
<u>Montellier v. United States</u> , 202 F. Supp. 384, aff'd, 315 F. 2d 180 (C.A. 2)-----	54
<u>National Mfg. Co. v. United States</u> , 210 F. 2d 263 (C.A. 8)-----	26,57,58,59,61,63,64
<u>Nucci v. Warshaw Construction Corp.</u> , 12 N.Y. 2d 16, 186 N.E. 2d 401-----	50
<u>Pope v. State</u> , 96 N.Y.S. 2d 708, aff'd, 101 N.Y.S. 2d 1020-----	51

Cases--Continued:

Page

<u>Poston v. United States</u> , 396 F. 2d 103 (C.A. 9), certiorari denied, 37 Law Week 3178-----	42
<u>Powers v. Montgomery Ward & Co.</u> , 295 N.Y.S. 712, 251 App. Div. 120, aff'd, 276 N.Y. 600, 12 N.E. 2d 95-----	50
<u>Richards v. United States</u> , 369 U.S. 1-----	21,31
<u>Rivera v. City of New York</u> , 11 N.Y. 2d 856, 18 N.E. 2d 283-----	43
<u>Rowe v. United States</u> , 272 F. Supp. 462 (W.D. Pa.)-----	24,47,48
<u>Rowlands v. Parks</u> , 2 N.Y. 2d 64, 138 N.E. 2d 217-----	43
<u>Saugerties Bank v. Delaware & Hudson Co.</u> , 236 N.Y. 425, 141 N.E. 904-----	49
<u>Shapiro v. Tchernowitz</u> , 155 N.Y.S. 2d 1011, 3 Misc. 2d 617-----	43,44
<u>Smerdon v. United States</u> , 135 F. Supp. 929 (D. Mass.)-----	42
<u>Somlo v. United States</u> , 274 F. Supp. 827 (N.D. Ill.), appeal pending, No. 16717 (C.A. 7)-----	24,47,48
<u>Steinmasel v. United States</u> , 202 F. Supp. 335 (D. S.D.)-----	60
<u>Tapia v. United States</u> , 338 F. 2d 416 (C.A. 2)-----	60
<u>Tilley v. United States</u> , 375 F. 2d 678 (C.A. 4)-----	43
<u>United States v. Furumizo</u> , 381 F. 2d 965 (C.A. 9)-----	28,29
<u>United States v. Miller</u> , 303 F. 2d 703 (C.A. 9), certiorari denied, 371 U.S. 955-----	31,43
<u>United States v. Neustadt</u> , 366 U.S. 696-----	26,56,58,59,64
<u>United States v. Schultetus</u> , 277 F. 2d 322 (C.A. 5), certiorari denied, 364 U.S. 828-----	31,43

Cases--Continued:

Page

<u>United States v. Stewart</u> , 199 F. 2d 517 (C.A. 7)-----	56
<u>United States v. Taylor</u> , 236 F. 2d 649 (C.A. 6)-----	56
<u>Wenninger v. United States</u> , 234 F. Supp. 499 (D. Del.), aff'd, 352 F. 2d 526 (C.A. 3)-----	50

Statutes and Regulations Involved:

Federal Tort Claims Act, Title 28, U.S. Code:	
28 U.S.C. 1346(b)-----	31,66
28 U.S.C. 2680(h)-----	2,25,56,59,60,62,63,66
14 C.F.R. (revised as of January 1, 1963):	
Section 40.355-----	66
Section 60.2-----	43,66
Section 60.11-----	42,67
Section 60.12-----	67
Section 60.60-----	67
F.A.A. Air Traffic Control Procedures	
Manual, AT P 7110.1A (Dft's Exh. 12):	
Section 205.4-----	22,41,68
Section 265.2-----	27
Section 352.1-----	18,21,32,34,68
Section 411.1-----	18,22,41,68
Section 411.2-----	18,22,41,68
Section 411.4-----	18,23,41,68
Section 431.6-----	17,22,39,69
Section 431.7-----	18,23,41,69
F.A.A. Facility Operations Manual,	
AT P 7230.1 (Dft's Exh. 13):	
Section 471.1-----	18,38,69
Section 471.5-----	18,69
Manual of Surface Observations, Circular "N",	
The (Dft's Exh. 2):	
Section 2210-----	70
Section 2621-----	38,70

Miscellaneous:

Keeton, " <u>Personal Injuries Resulting from Open and Obvious Conditions</u> ", 100 U. Pa. L. Rev. 629-----	42
<u>Prosser on Torts</u> (3rd ed.) §61, p. 403-----	42
<u>Restatement of Torts, 2d, §§463, 464</u> -----	50

IN THE UNITED STATES COURT OF APPEALS FOR
THE DISTRICT OF COLUMBIA CIRCUIT

No. 22,262

JOAN S. NEFF, Administratrix of
the Estate of JOHN W. NEFF,

Appellee,

v.

UNITED STATES OF AMERICA,

Appellant.

ON APPEAL FROM THE UNITED STATES DISTRICT
COURT OF THE DISTRICT OF COLUMBIA

BRIEF FOR THE APPELLANT

STATEMENT OF THE ISSUES PRESENTED^{1/}

1. Whether the Government had a duty to provide the taxi-
ing plane with "all significant relevant weather information",
irrespective of whether or not regulations or operating practices
required that particular weather information be transmitted,
and, more specifically, whether the Government had a duty (a) to
provide Mohawk Flight 112 with additional weather information
respecting the movement of the storm and visibility, and (b) to
cancel the flight under controlling regulations.

1/ This case has not heretofore been before this Court.

2. Whether, assuming arguendo that such duty existed, the Government's actions constituted a proximate cause of the accident.

3. Whether appellee's decedent, John W. Neff, was contributorily negligent.

4. Whether the "misrepresentation" exception to the Federal Tort Claims Act (28 U.S.C. 2680(h)) precludes the imposition of liability upon the Government because of the failure to convey weather information.

STATEMENT OF THE CASE

Nature of the Case.

This action was commenced under the Federal Tort Claims Act by Joan S. Neff, the widow of John W. Neff, as the administratrix of the estate of her deceased husband, seeking damages for the alleged wrongful death of the decedent. John W. Neff was the First Officer and pilot of Mohawk Airlines Flight 112 when it crashed on the afternoon of July 2, 1963, on the Rochester-Monroe County, New York, airport after take-off into a thunderstorm which was then on the field, resulting in the death of the First Officer, the Captain, who was acting as co-pilot, and a number of the passengers.^{2/} Plaintiff alleged negligence on the part of the Government through its agents on duty in the control tower in failing to withhold clearance for take-off of

^{2/} No suits were brought against the United States for the deaths or personal injuries of any of the passengers.

the plane, and in failing to provide certain weather information to the crew prior to take-off.

The district court found that the violent turbulence, wind shift, heavy rain, and other aspects of the thunderstorm caused the plane to crash; that the Government was negligent in failing to give the crew of the plane all current relevant weather information and in failing to withhold clearance for take-off; that such negligence was the proximate cause of the accident; and that plaintiff's decedent was not contributorily negligent. The court entered judgment on April 17, 1968, for damages to plaintiff and five surviving children in the amount of \$334,149.21.^{3/}

Statement of the Facts.

The Rochester-Monroe County airport has its terminal on the northern side of the field. The control tower is a structure about 40 feet above the ground located on the southern part of the field, and from the glass-enclosed cab there is an unobstructed view around the horizon. About mid-way between the terminal and tower running across the field in an east-west direction is Runway 28, which is 5,500 feet long. Take-offs are generally from the eastern end of the runway toward the west, and that was the situation on the afternoon of the accident. There was a local Weather Bureau station on the airport located on the southern part of the airfield just south of the control tower (App. 20; Pltf's Exh. 14).^{4/}

^{3/} No issue is being taken with the amount of damages.

^{4/} The reference "App." is to the separately printed Appendix.

1. The history of the flight.

Captain Richard Dennis and First Officer John W. Neff took over Mohawk Flight 115 at Ithaca, New York, at 3:13 P.M.,^{5/} on July 2, 1963, for its continuation to Rochester, New York. After a layover of about one hour, this same flight crew was to take originating Flight 112 using the same plane, with a departure time of 4:45 P.M., from Rochester to White Plains, New York, and other points (App. 21). When Dennis and Neff took over the plane at Ithaca, the pilot who had flown it in from Idlewild advised Dennis that he had observed severe thunderstorms on the aircraft's weather radar directly ahead in the direction of Rochester. In fact the storm cell was so large that it ran off the scope (App. 62-65). The thunderstorms had the appearance of a "squall line" running northeast to southwest about 75 miles from Ithaca toward Rochester, and Dennis and Neff were aware of this (App. 21).

The plane was a Martin 404 twin engine, piston-type aircraft, with a passenger capacity of 40 (App. 21, 445). This plane was equipped with weather radar in the cockpit, the essential purpose of which was to observe thunderstorms while in flight (App. 35). Mohawk's operating procedures required that the radar be operative, turned on and warmed up before the plane left the ramp (App. 216, 219, 443). It took about four minutes to warm it up (App. 35). This weather radar could be tested and was capable of receiving on the ground (App. 217,

^{5/} All times are Eastern Daylight Time.

443); and the area at the end of the runway was an "open area" where the radar could be used to scan (App. 35, 219). By tilting the antenna upward to its maximum, the scope could pick up a thunderstorm five miles distant and as high as 7,500 feet (App. 433-434). From the blip on the scope, the crew could determine the intensity of the storm, its distance and bearing (App. 196, 434). The district court found that the crew of Flight 112 "probably did not" use its weather radar to check the approaching storm (App. 36).^{6/}

The plane arrived at Rochester at about 3:40 P.M., and the crew including the stewardess, Mary Ann Miara, went into the Mohawk operations office (App. 21). At about 3:50 P.M. in the operations office, Mohawk's chief customer service agent talked with Captain Dennis, with First Officer Neff present, and advised him that a tornado warning had been issued on the radio and that Rochester was in for a "real severe thunderstorm" (App. 21, 79, 447). Official weather forecasts by the Weather Bureau of thunderstorms and a severe weather warning message put out by Mohawk's Utica office for the Rochester area were made available to Captain Dennis and First Officer Neff (see, infra, pp. 11-13).

Captain Dennis signed the flight plan for Flight 112 at about 4:30 P.M. and then boarded the plane (App. 23). The

^{6/} The court also found that no regulation or operating practice required the crew to do this, but even if this is true, circumstances here did require it, as we point out, infra, pp. 52-54.

flight was dispatched as an I.F.R. flight, that is, as a flight proceeding under instrument flight rules (App. 71). Passengers also began boarding about 4:30 P.M. (App. 78); and the plane had a full capacity load of 40 passengers (App. 445).

While the passengers were loading, some passengers and the stewardess heard thunder and saw lightning. All agree that the sky was dark and getting darker (App. 23). One passenger described the sky as containing dark clouds "moving ominously", and there were also high winds (App. 330-331). At about 4:41 or 4:42 P.M., as the lead customer service agent walked from the operations office to the aircraft, he saw lightning (App. 447-448); and he heard thunder as he left the aircraft about 4:44 P.M. At the same time he noticed a light sprinkle of rain (App. 448). The stewardess heard loud thunder about two minutes before she closed the door of the plane (App. 179).

At 4:43 P.M. the first engine was started and at 4:44 P.M. the second was started (App. 24). The ground controller in the control tower in response to a request from the plane issued taxi instructions at 4:44 P.M., with wind direction, velocity, altimeter setting and time check (App. 113). The plane was cleared to Runway 28 to hold short, and the flight was turned over by the ground controller to the local controller (App. 24, 133-134). It departed the gate at 4:45 P.M. on its taxi to the run-up area (App. 24, 86-87). The lightning and thunder continued and the rain increased.

At about that time Joseph L. Bettinger, an engineer and pilot and an eyewitness to the accident, came out of the Page

Engineering building on the southern side of the field (Pltf's Exh. 18), and found large drops of rain and saw lightning (App. 105). He estimated the visibility generally throughout the horizon to be four miles, and that was a conservative estimate (App. 315).

When the plane left the gate First Officer Neff was occupying the left, or pilot's, seat in the cockpit (App. 179). Captain Dennis permitted Neff to take off, and this was contrary to company regulation, since Neff did not have sufficient flight time in a Martin 404 to authorize him to sit in the left seat (App. 38, 294-296).

As the plane was taxiing away from the gate there was lightning, thunder and wind (App. 449). The pilot of another Mohawk flight arrived at Rochester from Buffalo at about 4:39 P.M. and reached the gate at about 4:41 P.M. (App. 470). At approximately 4:45 or 4:46 P.M. he saw lightning and heard thunder, and at 4:46 or 4:47 P.M. he saw rain and within a minute there was an intense downpour accompanied by hail (App. 470-471). All of these weather manifestations are typical of thunderstorms (App. 25). When Flight 112 was stopped in run-up position just off Runway 28, the runway lights were on. Approximately 2,700 feet, or about one-half way, down the runway and almost directly opposite the tower, there appeared to be a dark wall of rain moving from west to east up the runway toward the plane; and this could be seen from the plane. The visibility down the runway from the plane's cockpit was still more than one quarter of a mile (App. 25).

In addition to giving Flight 112 its taxiing instructions, the ground controller advised the flight to maintain departure heading for radar vectors to Victor 34, which meant that the flight was to maintain its heading after take-off and keep going straight out. That is normal procedure for an aircraft taking off from Runway 28 (App. 115, 142-143).

At 4:48:25 Flight 112 advised the tower that it was ready to go (App. 475). At about that time the intensity of the rain was described by one of the passengers "as though two huge fire trucks were pouring water on the windshield with hoses" (App. 333). Another passenger made a similar characterization (App. 467). At 4:48:39 Mohawk 112 was cleared by the local controller for take-off on Runway 28 (App. 475). But this clearance was not accepted. Instead, Captain Dennis made the request for a different clearance (App. 164), stating "We would like to make a left turn as soon as practicable to avoid those thunderstorms coming in from the west" (App. 25, 403).

At 4:49:26 the tower advised Mohawk 112 to delete its runway heading and to make a left turn on course, and that the wind direction was 340 and velocity was 15 (App. 25, 475). Mohawk acknowledged, and the local controller signed off (App. 475). The plane moved onto the runway and almost immediately took off down the runway. The tower gave Cleveland the take-off time as 4:49 P.M. (App. 139, 162).^{7/} The plane was still on the runway

7/ As the controllers report time, 4:49 P.M. is anything between 4:48:31 and 4:49:29 (App. 140-141).

when it entered the dark rain wall opposite the terminal. The plane left the ground and encountered lateral and vertical turbulence at various intervals commencing at about a fifteen foot height, and rose to about 100 feet into violent turbulence. It then tipped sharply with the left wing down, then over with the right wing down, and 180° back to left wing down, and crashed on the airport (App. 26, 327-328, 468).

The district court specifically found that the crew made no effort to abort the flight, although this could have been accomplished safely at any time before the plane reached the rain wall (App. 26, 38). The court also found that pilots fear and avoid thunderstorms, that Mohawk crews had been repeatedly warned of the dangers of taking off or flying in thunderstorms, and were trained to avoid thunderstorms if at all possible (App. 35).

An eyewitness, Gordon Stoppelbein, who was chief pilot and general manager and an instructor in flying for a flying service located on the Rochester airport, was in a hanger on the southern part of the field behind the tower at the time that the crash occurred (App. 96-97; Pltf's Exh. 16). He was watching the heavy rain and hail when the aircraft came out of the "thick weather" into clearing on the west one-third of the field. The plane was then in a very steep climb attitude, in a stalled condition. The storm had moved east of the north-south runway and visibility to the northwest was about one to one and one-half miles (App. 98-102, 456).

It was the thunderstorm into which the plane flew which caused the plane to crash (App. 26). The WBAN Form kept by the Weather Bureau showed that the accident occurred at 4:49 P.M. and was reported to the Weather Bureau at 4:50 P.M. (App. 474). The tower reported the accident to Mohawk's Operations Office in the terminal at about 4:50 P.M. (App. 90).

2. Official weather information.

The United States Weather Bureau provided weather service for aviation. Generally, all weather bureau forecasts for the afternoon of July 2, 1963, predicted severe thunderstorms, high winds, the possibility of a tornado, and hail for an area in the northeastern part of the United States, including Rochester. The information was disseminated and picked up on teletype equipment known as Circuit "A". Mohawk had such equipment at its main dispatch office at Utica but not at Rochester (App. 88). Forecasts for the northeastern part of the United States were formulated at and disseminated from Cleveland, Ohio.

The Weather Bureau observer made regular hourly observations, which included ceiling, visibility, wind, temperature, dewpoint, and other phenomena such as rain, snow, hail, and so forth. These and special observations within the hour were put out over Circuit "A" and telautograph (App. 88-89, 347-348). The device telautograph is a machine on which the transmitter writes the message and there is instant transmission (App. 24). Mohawk did not have a telautograph machine in its Rochester office (App. 74-75); but United Airlines, whose operations office was about 100 to 125 feet from Mohawk's office had a

Circuit "A", a telautograph, and a copying machine (App. 88), and there was an understanding by which Mohawk could use this equipment (App. 78).

On July 2, 1963, the Weather Bureau's Kansas City Storm Center issued at 2:15 P.M., ^{8/} a severe weather warning, which was received over Circuit "A" teletype at Mohawk's operations office in Utica about 2:30 P.M. (App. 303, 305, 479). Other forecasts predicting thunderstorms were made by the Cleveland Weather Bureau station (App. 479). As a result, Mohawk's dispatcher McIntyre at the Utica office issued at 2:53 P.M. a severe weather warning which was disseminated to Mohawk stations over the company teletype line (App. 304, 480). Rochester was within the area covered by those forecasts and the Mohawk weather message (App. 304). This weather information was available for and came to the attention of the crew of Flight 112, and was as follows (App. 21-23):

Aviation Severe Weather Forecast

Weather warning Kansas City Urgent Kansas
City Forecast number 315 July 2, 2:15 PM,
EDT

Aviation Severe Weather Forecast
Area one [evidence showed Rochester is in
Area one] - Tornado forecast

A - Along and 60 miles either side of a
line from 60 miles southeast of Buffalo,
N.Y. to 50 miles northeast of Burlington,

8/ Defendant's Exhibit 10 (App. 479) and the court's opinion (App. 22) show 3:15 P.M., but since Mohawk's dispatcher at Utica said that this release was available between 2:15 and 2:30 P.M., and he saw it about 2:30 P.M., and prepared his own severe weather message on the basis thereof at 2:53 P.M. (App. 303, 304-305), it seems clear that 2:15 P.M., rather than 3:15 P.M., is correct.

Vt. Valid from 4:00 PM. EDT to 10:00 PM EDT. Public forecast issued.

- B - Scattered severe thunderstorms with extreme turbulence. Hail to 1 1/2 inches in diameter. Maximum surface gusts 65 knots. Possibility of an isolated tornado or two. Few cumulus buildups maximum tops 6000 feet.
- C - Squall line forming in Ontario, Canada to vicinity of Buffalo and Youngstown, Ohio. Expected to intensify and move east-southeastward at 40 knots.

U.S. Weather Bureau

Amended Terminal Forecast #1, circuit 8022,
July 2, 1963 2:45 PM EDT
Valid from 2:45 PM EDT Tuesday to 7:00 PM
EDT Wednesday.

Rochester - ceiling 4,000 feet broken clouds, visibility 7 miles, wind west-southwest 16 knots, scattered thunderstorms. Possible briefly ceilings 500 feet sky obscured 1/2 mile visibility, heavy thunderstorms, hail, wind from the west at 40 knots with gusts to 65 knots. Chance isolated tornado. 7:00 PM EDT cold front passage. 25,000 feet thin scattered clouds. Winds northwest 10 knots. Occasionally 4,000 feet scattered clouds until 9:00 PM EDT

All Mohawk Stations

Post for Pilots and pass to any flights into areas mentioned.

Weather Bureau severe weather forecast indicates along and 60 miles either side from 60 miles southeast of Buffalo, N.Y. to 50 miles northeast of Burlington, Vt., expect scattered severe thunderstorms with extreme turbulence, hail to 1 1/2 inches in diameter and maximum surface gusts 65 knots. Possibly an isolated tornado or two. Squall line forming in Ontario Canada. to vicinity of Buffalo and Youngstown, Ohio expected to intensify and move east south eastward at 40 knots.

Company pilot reports indicate a line of thunderstorms through western Pennsylvania from north of Johnstown, Pa. extending southeastward and building rapidly. Expect these thundershowers to move eastward.

The 4:00 P.M. hourly sequence observation by the local Weather Bureau station was obtained by Mohawk's customer service agent Curtis and was brought to the operations office (App. 79). That report, which also came to the attention of the crew, was as follows (App. 21, 23, 482):

Hourly Sequence Reports

Area Sequences circuit 8022 July 2, 1963
4:00 PM EDT

Rochester - ceiling estimated 5,000 feet broken clouds, higher broken clouds 12,000 feet visibility eight miles 1007.6 millibars of pressure. Temperature 94° F, dew point 66, wind west-southwest 16 knots. Altimeter setting 29.76 inches of mercury.

Captain Dennis did not seek any further weather data, stating that the hourly sequence was enough with what he had (App. 21, 90).

The weather station technician Chapman who was then on duty heard thunder at 4:40 P.M. and saw lightning (App. 24, 352-353, 474), which necessitated his taking a special observation. This he did at 4:42 P.M. and transmitted it to the control tower by telautograph at 4:43 P.M., where it was marked received at 4:44 P.M. That message read as follows (App. 480):

Special Observation 4:42 PM EDT

Ceiling estimated 5,000 feet overcast, 8 miles visibility thunderstorm. Thunderstorm northwest moving eastward. Frequent lightning cloud to ground, wind-northwest 18 knots. Observer 4:43 PM EDT

At about 4:45 P.M. a Navy pilot went to the Weather Bureau Station for a weather briefing; and Mr. Chapman talked to him for about three to five minutes (App. 31, 354, 371). Near the end of the briefing the siren sounded indicating the accident (App. 355, 371).

Because of the accident and because the weather had deteriorated, a special weather observation was made by the Weather Bureau at 4:52 P.M. (App. 356). This showed, among other things, thunderstorm in all quadrants and visibility of one-half mile (App. 481). And the 5:00 P.M. hourly sequence or regular record observation, which was made at 4:59 P.M., showed the thunderstorm moving eastward and visibility of four miles (App. 481). The lowest prevailing visibility observed by the Weather Bureau operator between 4:00 P.M. and 5:00 P.M. was one-half mile.

The Rochester airport did not have an officially operative mechanical device for recording runway visibility at the time of this accident (App. 420). The district court found that there was on the airport a transmissometer, located along Runway 28 at about its mid-point. This is a mechanical unit consisting of a projector and a detector which determines intensity of light received and transmits it to permit conversion to a visibility value (App. 25, 31, 225, 342-343). In any event, it does not measure airport visibility, but gives that value only for the area along the runway where it is located (App. 8-10). While the district court found that at the time Mohawk 112 was cleared for take-off this instrument registered a sharp drop in visibility at the point of its

location from four miles to one-eighth of a mile (App. 25), the court also found, in accordance with the uncontradicted testimony of the Government official who was responsible for the over-all installation, checking and commissioning of such instruments, that the Rochester equipment at the time of the accident had no "readout meter," had not been officially commissioned, and its information could not, under existing regulations, be accepted as the official visibility reading (App. 31-32, 336-338).

3. The operation of the control tower.

In the tower cab at Rochester there were three positions: ground control and flight data, local control, and enroute control (App. 385). In the I.F.R. room two floors below the cab there was the position of departure control (App. 172-173). The ground controller issues instructions for taxiing, and is required at the same time to give the pilot wind velocity, wind direction, altimeter settings and time check (App. 113). He also gives an I.F.R. flight an I.F.R. clearance, which in this case he obtained from Cleveland and gave to Flight 112 (App. 114-115; Deft's Exh. 13, Section 123.3). The ground controller then turns the flight over to the local controller who gets a release from departure control and then clears the flight for take off (App. 151; Dft's Exh. 13, Section 123.1). An air traffic clearance is defined by regulations as "Authorization by air traffic control facilities, for the purpose of preventing collision between known aircraft, for an aircraft to proceed

under specified traffic conditions within controlled airspace." (Dft's Exh. 12, Section 120).^{9/}

The enroute controller had the duty to communicate with aircraft enroute, to make scheduled weather broadcasts, unscheduled weather broadcasts, or any emergency communications, ~~except~~ flight plans, and relay weather information (App. 378-379).

It was the duty of the departure controller to separate known I.F.R. traffic in the Rochester control area (App. 173). The radar at the control tower was in the I.F.R. room (App. 385). While weather phenomena echos could be obtained on this radar (App. 173-174; Pltf's Exhs. 24 and 25), it was not weather radar, and it was less definitive of rainfall than the typical weather radar. Rather it was A.S.R., or Aircraft Surveillance Radar, the primary purpose of which is to provide separation of traffic (App. 465). Departure control is in contact with the flight subsequent to its departure (App. 465). Within one-half mile of the departure end of the runway, the flight switches to departure control (App. 152-153). At no time was departure control at Rochester in voice communication with Mohawk Flight 112 on July 2, 1963 (App. 465).

Under existing regulations control tower personnel were also obligated to make visibility observations but only when the prevailing visibility went below four miles (App. Stat. and

^{9/} There is no dispute that a clearance is not mandatory; it is not an instruction but, rather, is an authorization which may be accepted or rejected by the pilot (App. 220-221, 275).

Reg., infra, pp. 69-70).^{10/} The responsibility was then that of the local controller (App. 116, 458). "Prevailing visibility", which is a term of art, is defined in the Manual of Surface Observations, Circular "N" as "the greatest visibility which is attained or surpassed throughout half of the horizon circle, not necessarily continuous" (App. Stat. and Reg., infra, p. 70).

Between 4:45 P.M. and clearance for Flight 112, Mr. Thorp the local controller in the tower at Rochester on July 2, 1963, looked in all directions of the horizon and found that prevailing visibility was not less than four miles (App. 310-313). Tower personnel were required to report ceiling and visibility to I.F.R. flights such as Mohawk 112 only if these items were below airport minima (App. 146, 308). Reference in Section 431.6 of the Air Traffic Control Procedures Manual, AT P 7110.1A, (App. Stat. and Reg., infra, p. 69) to such ceiling and visibility minima mean the official ceiling and prevailing visibility (App. 308). And the Rochester airport minima were a 300 foot ceiling and one mile visibility (App. 308, 459). At the time of Flight 112's take-off the official ceiling and prevailing visibility were not below the Rochester minima (App. 310).

Where a flight is an I.F.R. and not an V.F.R. flight, where there is no "closed" runway involved, where there is no

^{10/} This reference is to the Appendix of Statutes and Regulations to this brief, infra, pp. 66-70.

officially operative mechanical device for recording runway visibility, where the visibility on the runway from the cockpit prior to take-off is over one quarter of a mile, and where prevailing visibility at that time is not less than four miles, then the F.A.A. air traffic controller is precluded under Sections 411.1, 411.2, 411.4 and 431.7 of the Air Traffic Control Procedures Manual (App. Stat. and Reg., infra, pp. 68-69) from denying clearance to the flight, except for traffic conditions.

In assessing the responsibility of the Government, and in finding negligence, the district court cited the following regulations pertaining to duties of control tower personnel from the Air Traffic Control Procedures Manual, (Dft's Exh. 12):

352.1. Whenever storm areas such as apparent thunderstorms, rain showers or squall lines can be discerned on the radar display, information concerning them shall be provided to pilot when considered advisable by the controller.

and from the Facility Operations Manual (Dft's Exh. 13):

471.1 Visibility observation shall be taken from the control tower during periods when the visibility at the usual point of observation is less than 4 miles. Such observations shall be taken by weather station personnel when available, or by control tower personnel when weather station personnel are not available. . . .

471.5 Visibility observations taken by control tower personnel are considered official as soon as the observation is recorded in the tower. Therefore, such visibility observations may be transmitted to pilots or aircraft whenever necessary.
. . .

District Court's Decision.

The district court held that the Government had a duty to provide the taxiing plane with all significant relevant weather information, which duty existed whether or not specific regulations or operating practices required that particular weather information be transmitted. The "governing rule" which the court stated that it had applied in this case was set forth in the following language: "If the Government has new, significant, and immediate relevant information that might have affected the crew's takeoff decision, and there was opportunity to provide it after the plane left the ramp, then the Government will be held liable, even though the regulation did not explicitly require the information to be transmitted" (App. 34). The court then found that the Government was negligent in the following respects:

(1) It failed to advise the crew that the storm was expected to hit the field at takeoff time, as the weather personnel well knew.

(2) It failed to relay the special weather observation of 4:42 p.m. to the plane before takeoff.

(3) Personnel in both the weather station and the tower failed to keep an adequate lookout and advise the plane of the diminishing visibility conditions attendant on the approaching storm. They failed to observe and bring the sharp visibility change to the attention of the plane. The weather visibility at the middle of the runway before takeoff required the tower to cancel the flight in accordance with the controlling regulations (App. 34-35).

The court further held that these lapses individually and collectively were a proximate and direct cause of the accident. It went on to state that even if the visibility did not require cancellation of clearance, the information from the tower might well have caused a delay in take off or a refusal to take off, and this was sufficient to find the Government negligent (App. 35).

On the Government's affirmative defense of contributory negligence, the court held that First Officer Neff was not contributorily negligent (App. 39). On that point the court found that First Officer Neff was not aware that the thunderstorm was on the field; and that, while the flight could under prevailing operating conditions have been aborted, the decision to abort was that of the Captain, Dennis, although Dennis was not flying the plane and First Officer Neff was occupying the pilot's seat contrary to company regulations (App. 37-38).

STATUTES AND REGULATIONS INVOLVED

The pertinent statutes and regulations involved in this case are set forth in an appendix to this brief, infra, pp. 66-70.

SUMMARY OF ARGUMENT

I

The district court clearly erred in holding that Government personnel had a duty to give the crew of Mohawk Flight 112 additional weather information prior to take-off or to deny clearance to the flight. The "governing rule" which the court fashioned and applied in this case is in error, since it imposes a duty which goes entirely outside of any duty in regulations

or practices and is not supported by Hartz v. United States, 387 F. 2d 870 (C.A. 5), or other cases upon which the court purports to rely.

Since the alleged wrongful act or omission took place in the State of New York, the law of that State governs. Richards v. United States, 369 U.S. 1. And under New York law, tort liability requires a duty, breach, resultant injury and freedom on the part of the plaintiff from contributory negligence. Where there is no duty, there can be no breach and no liability. Kimbar v. Estis, 1 N.Y. 2d 399, 135 N.E. 2d 708.

There is neither regulation nor practice which required Weather Bureau or tower personnel to advise the crew of Flight 112 that the storm was expected to hit the field at take-off time or to advise it of the contents of the special weather observation of 4:42 P.M.

In the first place, there is no means of direct communication between Weather Bureau personnel and a flight on the field. Further, Section 352.1 of the Air Traffic Control Procedures Manual (App. Stat. and Reg., infra, p. 68), cited by the court to establish a duty in this respect, does not apply to Weather Bureau personnel; and so far as controllers are concerned the regulation leaves the matter of giving radar information solely to their discretion. Moreover, the thunderstorm was already on the field prior to take-off, as must have been perfectly obvious to the crew of Flight 112. The only additional weather information which the 4:42 P.M. special observation could

have imparted to the crew of the plane was that there was a thunderstorm northwest moving eastward. But the crew knew this prior to take-off, since they had asked for a revised take-off clearance, stating "We would like to make a left turn as soon as practicable to avoid those thunderstorms coming in from the west". There is no duty to advise a person or warn him of something which he already knows.

There was, likewise, no duty to give Flight 112 additional visibility information or to deny clearance to the plane on the basis of visibility. By regulation the tower is required to give ceiling and visibility to departing I.F.R. flights when the official ceiling and the prevailing visibility are below the airport minima. Section 431.6, Air Traffic Control Procedures Manual (App. Stat. and Reg., infra, p. 69). For Rochester those minima were a 300-foot ceiling and prevailing visibility of one mile. Prior to take-off the ceiling was 5,000 feet and prevailing visibility was not less than four miles.

Other regulations provide that clearances are to be based upon other known traffic, except that when runway visibility is below one-quarter mile, or if there is no runway visibility, then if prevailing visibility is below one-quarter mile, clearance shall be denied.^{11/} Sections 411.1, 411.2, 205.4,

^{11/} Other exceptions such as that relating to a closed runway are not pertinent.

411.4 and 431.7, Air Traffic Control Procedures Manual (App. Stat. and Reg., infra, pp. 68-69). The district court expressly found that prior to take-off runway visibility from the cockpit of the plane was more than one-quarter of a mile. It follows that there was no duty to give additional visibility information or to deny clearance. In fact, there was no authority to deny clearance. And where there is no duty there can be no breach and no liability.

II

However, even assuming arguendo that the controllers in the tower had a duty under regulations to give the crew of Flight 112 additional weather information before take-off, the breach of that duty was not a proximate cause of the accident. Proximate cause is defined in New York law as that cause which "in a natural and continuous sequence, unbroken by any new cause, produced the event, and without which that event would not have occurred". Hoggard v. Otis Elevator Co., 276 N.Y.S. 2d 681, 52 Misc. 2d 704. Any breach of duty attributable by the district court to Government personnel could not be a proximate cause of the accident, because performance of the duty would not have altered the situation; it would not have given the crew of Flight 112 any information which they did not already have. They knew the thunderstorm was moving out of the west; and by the time they moved the plane onto the runway they knew, or should have known, that the storm was on the field. On this record they could not have believed that this was a mere rain-

storm, as the district court inferred. That finding by the court is "clearly erroneous". For they had had innumerable warnings about thunderstorms that afternoon in the Rochester area. As the plane was being loaded there was lightning and thunder, and as it was in its run-up position there was intense rain and also hail. These were indicia of thunderstorms, about which and their hazards Mohawk pilots were well trained. The tower had no runway visibility, and prevailing visibility as determined by the local controller from a scan made just prior to take-off was four miles, knowledge of which would not have deterred the flight since such visibility was more than four times the Rochester airport minima. Moreover, visibility played no part in the accident, since that was caused not by collision but by the turbulence of the thunderstorm, which was before the very eyes of the crew when they flew into it. Lack of additional weather information from the tower was, then, no proximate cause of the crash. On the contrary, the flight into the thunderstorm, whether this was the responsibility of First Officer Neff or Captain Dennis, when the crew knew or should have known that the storm was on the field, was the sole proximate cause of the accident. It was, in truth, negligence of such magnitude that it would bar any claim against the United States. Somlo v. United States, 274 F. Supp. 827 (N.D. Ill.); Rowe v. United States, 272 F. Supp. 462 (W.D. Pa.).

III

Moreover, the district court clearly erred in holding that First Officer Neff was not contributorily negligent, since the record establishes that Neff failed to exercise that degree of care for his own protection which a reasonably prudent person would have exercised in like circumstances. Hunt v. Schultz, 250 N.Y.S. 2d 378, 21 App. Div. 2d 743. He voluntarily submitted himself to a peril known to him or generally readily observable by a person of ordinary prudence in his situation when he (1) flew into the thunderstorm then on the field, (2) failed to use his weather radar or request further weather information from the tower, (3) sat in the left seat and piloted the plane when he did not qualify under company regulations, and (4) failed to abort the flight although this could have been done safely at any time before he entered the wall of rain. But even if he acted under orders from another, he may not, as he did, act in utter disregard of reasonable prudence without being contributorily negligent. Marco Polo di Suvero v. Gem Window Cleaning Company, Inc., 17 N.Y. 2d 831, 218 N.E. 2d 317. And under New York law contributory negligence is a complete bar to recovery. Casey v. Ross, 10 N.Y. 2d 834, 178 N.E. 2d 429.

IV

Finally, even if the foregoing were not correct, the provisions of the "misrepresentation" exception to the Federal Tort Claims Act, 28 U.S.C. 2680(h), would preclude liability

on the part of the United States under the facts of this case. That exception covers negligent as well as intentional misrepresentation. United States v. Neustadt, 366 U.S. 696, 702. And there are a number of cases from Courts of Appeals which support the proposition that the failure to give weather information or the giving of inaccurate or inadequate weather information falls squarely within the "misrepresentation" exception, and no recovery based thereon may be had against the United States. E.g., National Mfg. Co. v. United States, 210 F. 2d 263 (C.A. 8); and Clark v. United States, 218 F. 2d 446 (C.A. 9).

ARGUMENT

I. THE DISTRICT COURT ERRED IN HOLDING THAT GOVERNMENT PERSONNEL HAD A DUTY TO GIVE THE CREW OF MOHAWK FLIGHT 112 ADDITIONAL WEATHER INFORMATION PRIOR TO TAKE-OFF.

A. The District Court's "Governing Rule" Respecting the Duty of Government Personnel to Transmit Weather Information to the Flight Is in Error.

The district court in this case fashioned and applied a "governing rule" as follows (App. 34):

If the Government has new, significant, and immediate relevant information that might have affected the crew's take-off decision, and there was opportunity to provide it after the plane left the ramp then the Government will be held liable, even though the regulation did not explicitly require the information to be transmitted.

In so doing the court stated that it was guided by such cases as Hartz v. United States, 387 F. 2d 870 (C.A. 5). But

the Hartz decision does not justify such a rule. In Hartz a small Bonanza plane was prepared to take off on the same runway and immediately behind a large DC-7. When the DC-7 was airborne, the controller instructed the Bonanza to take a position on the runway, and as soon as it was positioned, the controller cleared it for take-off giving the warning "watch the prop wash". The Bonanza encountered turbulence which was trailing wing-tip vortex from the DC-7 and crashed. A regulation in the Air Traffic Control Procedures Manual provided that to issue cautionary information regarding possible wing-tip vortices the controller should use the term "CAUTION, TURBULENCE". The Court of Appeals held that the warning "watch the prop wash" was not sufficient under the regulation and was not adequate to caution the Bonanza of the possible danger then known to the controller. In a statement, which can only be dicta in view of the Court's holding that the controller had failed to comply with the applicable procedural regulation, the Court said that it disapproved the view that the duty of the controller is circumscribed within the narrow limits of an operations manual. And it went on to state in effect that it approved the contrary view expressed by the Second Circuit in Ingham v. Eastern Air Lines, Inc., 373 F. 2d 227, certiorari denied, 389 U.S. 931.

But the Ingham decision did not go outside the regulations to hold the United States liable in that case. Rather, the Court looked to Section 265.2 of the Air Traffic Control Procedures Manual, which provided that where the ceiling and/or visibility is reported as being at or below the highest "circling

minima" established for the airport, a report of current weather conditions and subsequent changes, as necessary, shall be transmitted by approach control to all aircraft at the time of the first radio contact or as soon as possible thereafter. And it held that the failure of Government personnel to report to the plane a change in visibility from one mile to three-fourths of a mile was negligent because this was "necessary" information in the circumstances. In other words, the Court held that the Government had violated its own regulation. True, the Court said in Ingham, as quoted by the Fifth Circuit in Hartz, that "It is now well established that when the government undertakes to perform services, which in the absence of specific legislation would not be required, it will, nevertheless, be liable if these activities are performed negligently" (373 F. 2d at 236). But that means no more than that the Government had undertaken in its regulations to report weather conditions "as necessary", and it had negligently breached that regulation, for which it could be held liable under well-established rules.

In this connection there is a recent third case which bears mention here. In United States v. Furumizo, 381 F. 2d 965 (C.A. 9), the Court held the Government liable for not issuing a sufficient warning under the Manual. There the district court had found the Government negligent on two theories: (1) that the controllers had a duty which went beyond Air Traffic Control Regulations and the Procedures Manual to withhold or delay clearance to a small plane when its position is such that it might take-off in the wake turbulence of a large plane, and

that the mere warning prescribed in the Manual was not enough; and (2) that in the particular case the controllers having given a warning actually saw the small plane start to take off in apparent disregard of the warning without waiting long enough for the turbulence to dissipate and did nothing to stop it. The Court of Appeals found it unnecessary to either accept or reject the first theory, since it found on the facts that the second theory was sufficient. In that connection, the Court held that there was a directive in the Manual to give a warning concerning the turbulence and that directive was not fully complied with where, although the first warning was given, it became clear to the controller that another warning was needed, and none was given (381 F. 2d at 968).

With respect to Indian Towing Co. v. United States, 350 U.S. 61, which the district court also cites in the present case (App. 34), that case holds that where the Government undertakes to perform a service, it will be liable if it does so negligently. As to air traffic control services, the Government has undertaken to give only such information and warnings to pilots as appear in the regulations and manuals; and if it negligently performs those services, as the Courts found were the situations in the respective cases of Hartz, Ingham and Furumizo, then the Government is liable. But that is not the rule which the district court applied here. On the contrary, the rule fashioned and applied by the court in this case imposes duty beyond that imposed by regulation and, thus, goes beyond the rule in cases upon which the court purports to rely.

Further, the rule which the district court applies would be totally impracticable and unworkable. For there are no objective standards in the rule, and we can only ask who is to be the arbiter of what is "new", what is "significant", or what is "immediate relevant" information. Presumably the district court would have a court determine this in the first instance in case of a suit, which would leave Government personnel wholly without applicable guidelines in performance.

Moreover, we feel constrained to add that even if this were a permissible, workable rule, the applicability thereof, with the only reasonable construction of the terms "new", "significant", and "immediate relevant" in light of the facts of this case, would absolve the Government of any negligence. For any information which Government personnel could have given to the pilot respecting the weather would not fall within those terms. The flight crew knew or should have known that there was a thunderstorm, that it was on the field prior to take-off, and that it was moving out of the west toward the east, as we discuss more fully, infra, pp. 44-46, 51-52. With respect to visibility, the prevailing visibility just prior to take-off was more than four miles as determined by the local controller (App. 310-313), and runway visibility from the plane's cockpit, as found by the district court, was more than one quarter of a mile (App. 25). While this visibility information might be considered "new" from the standpoint of the 4:00 P.M. hourly sequence record of a prevailing visibility of eight miles (App. 23), it was certainly not "significant" or "immediate

relevant" information which might have affected the crew's take-off decision, since it was well above the Rochester airport minimum of prevailing visibility of one mile (App. 308, 459), and the runway visibility of over one-quarter mile was more than the minimum for withholding clearance (App. 418-419).

It follows that the Government could not validly be found negligent under the so-called "governing rule" which the district court attempts to fashion and apply in this case.

In the absence of special statute, the ordinary rules of tort law apply to aircraft accidents. United States v. Miller, 303 F. 2d 703 (C.A. 9), certiorari denied, 371 U.S. 955; United States v. Schultetus, 277 F. 2d 322 (C.A. 5), certiorari denied, 364 U.S. 828. And since the accident in this case occurred in New York, the substantive standard of negligence derived from the law of that State. 28 U.S.C. 1346(b); Richards v. United States, 369 U.S. 1. It is axiomatic in New York, as in all common law jurisdictions, "that no action will lie in negligence unless all of the following elements are present: (1) the existence of a duty on defendants' part as to plaintiff; (2) a breach of this duty; (3) resultant injury to plaintiff; and (4) absence of contributory negligence on plaintiff's own part". Kimbar v. Estis, 1 N.Y. 2d 399, 403, 135 N.E. 2d 708, 709. Since there was no duty on the part of Government personnel to inform Mohawk 112 of the time the storm would hit the field, of the special weather observation of 4:42 P.M., of the prevailing visibility at the time of take-off, or to deny clearance "* * * there can be no breach of duty, and

without breach of duty there can be no liability". Id. at 405 and 711.

B. Government Personnel Had No Duty to Advise the Flight That the Storm Was Expected to Hit the Field At Take-Off Time, Or to Advise It of the Contents of the Special Weather Observation of 4:42 P.M.

The district court does not and cannot point to any regulation or practice which required Government personnel to advise the plane that the storm was expected to hit the field prior to take-off time, or to advise it of the special weather observation which the Weather Bureau made at 4:42 P.M. and transmitted to the tower thereafter. And the evidence regarding the duty of Government personnel in those respects is to the contrary. In an apparent attempt to meet the need for establishing such a duty the district court cited Section 352.1 ^{12/} of the Air Traffic Control Procedures Manual.

In the first place, that section in no sense applies to Weather Bureau personnel. It is from the procedures manual for controllers. Nor is there evidence of any practice on the part of Weather Bureau personnel to advise pilots of thunderstorms shown on Weather Bureau radar. On the contrary, there is no radio equipment in the Weather Bureau which would enable personnel on duty to communicate directly with the plane or to hear what is said between the pilot and the tower (App. 411-412).

The district court held that the Government was negligent in that it failed to advise the crew that the storm was expected ^{12/} "Whenever storm areas such as apparent thunderstorms, rain showers or squall lines can be discerned on the radar display, information concerning them shall be provided to pilot when considered advisable by the controller."

to hit the field "at take-off time, as the weather personnel well knew" (App. 34). In that connection it found that at 4:30 P.M., Williams, who had stayed on duty after 4:00 P.M. at the Weather Bureau and who was watching radar, had advised Chapman, the weather technician then on duty, that the storm was moving at 35 + m.p.h. toward the field; and that at 4:40 when Chapman heard thunder and saw lightning and then took a special observation, it appeared to him that the storm was four to five miles away. The court then said that "the information available to him indicated the storm could well hit the field by 4:47 p.m."; and the court added that "he had a duty, according to his own testimony, to consult with the tower if he knew something of significance the tower didn't know" (App. 30-31).

But there is no evidence whatever that Chapman actually made any calculation of when the storm would hit the field or that he had any duty to do so. He did not know and had no occasion to know airlines' schedules, and was not aware that this flight was taking off (App. 31, 412). Moreover, his duty with respect to advising the tower, as set forth by the court, was to give it information of significance which it did not know. There was no occasion to tell the tower of the approach of the storm, since it was perfectly obvious from the special observation of 4:42 P.M., which was transmitted by Chapman to the tower, that the storm was approaching and moving from west to east (App. 480). And if the tower needed to know more of the location and the speed of the storm, it had radar which could be used for this purpose in its I.F.R. room. While it is true that that radar is not weather

radar, and its primary purpose is to provide separation of traffic (App. 465), it is capable of giving weather information, and the departure controller Sufrin made sketches of what the storm looked like on the radar that afternoon (Pltf's Exhs. 24 and 25).

It follows from the foregoing that if the district court meant that the Government was negligent because Chapman as "weather personnel" did not advise the pilot or the tower of the time the storm might hit the field, that holding cannot stand, because there was no evidence of any duty on the part of Chapman to make such calculation or transmit such information to the pilot or the tower.

If, on the other hand, the district court in such holding is referring to tower personnel, although they are not "weather personnel", ^{13/} there is in the same fashion an absence of any evidence of duty to so advise the pilot. In the first place, the radar in the tower is in the I.F.R. room, two floors below the cab, at the position of the departure controller (App. 172-173, 385), who is not directly in touch with a flight until after it leaves the field (App. 153, 465). True, the departure controller had direct communication with the local controller in the cab, and, presumably, could have advised the local controller of approximately when the storm might hit the field. But there is no evidence that he made any such calculation or had any occasion or duty to do so. The regulation cited by the court, Section 352.1, says no more than that radar information ^{13/} Controllers are not weather observers; they become qualified visibility observers only (App. 172, 417, 458).

as to apparent thunderstorms shall be provided to the pilot "when considered advisable by the controller". In this connection, the storm was already on the field prior to the plane's take-off and should have been, so far as the controller was concerned, equally obvious to the crew of Flight 112, especially since there was weather radar in the plane.

Accordingly, the record fails to establish any duty on the part of Government personnel in the circumstances of this case to have advised Mohawk Flight 112 of when the storm might be expected to hit the field.

Equally true is the fact that there was no duty on the part of Government personnel to advise Flight 112 of the special observation of 4:42 P.M. Certainly there was no duty on the part of Weather Bureau personnel to give such information to the pilot in view of the total lack of direct communication between the Weather Bureau and the plane. As to the tower, when the special observation arrived on the telautograph, it was the responsibility of the enroute controller, who was at the Flight Service Station position, to take the message. At that time he was preparing to make the regular 4:45 P.M. weather broadcast to planes in flight. This was a part of his duties which concerned the control of planes in flight (App. 32, 123-124, 378-379). Such a weather message is posted at the local controller's position (App. 129-130, 137). However, in this case the message arrived at 4:44 P.M. (App. 380), and was retained for the broadcast, since the latest available local weather is the first and

last item on the broadcast (App. 381). This broadcast was not directed specifically to the plane on the field, but could be picked up on its radio if it was tuned to that frequency. The controller commenced broadcasting at 4:45 P.M., and took about three minutes (App. 382). Just as he finished, he received a call on the local airport interphone from the crash equipment unit of the airport to advise that its siren was out of service (App. 382-383); and he was writing a note on this for posting when the crash of Mohawk 112 occurred (App. 383). The enroute controller testified that if a special weather message had any bearing on the control of traffic, he would give it to the local controller (App. 399-400), but that the 4:42 P.M. message advised that a thunderstorm was moving from west to east, and if the weather observer could see this, so could a person sitting on the field (App. 400).

The ground controller DiStasio testified flatly that he had no duty to convey the 4:42 P.M. message to the pilot. It was his duty to advise the pilot of winds at the time of taxi clearance, and this he did (App. 127). The local controller Thorp testified that it was not mandatory for him to give the plane weather information; rather, it was a matter of the local controller's judgment, and he would give it if it were something which in his judgment the pilot did not know (App. 158, 171). Because of the circumstances of the arrival of the weather message, the weather broadcast, and the time of the crash, neither the ground controller nor the local controller saw the message prior to the crash.

It is to be noted at this point that the special observation contained weather information similar to that in the 4:00 P.M. sequence which the crew saw in the operations office, except for wind speed and direction and the statement in the 4:42 P.M. message that there was a "Thunderstorm northwest moving eastward". Wind direction and speed were subsequently given at take-off time (App. 475). And that the crew knew of the movement of the thunderstorm is perfectly clear from their request to the local controller for a different clearance, stating "We would like to make a left turn as soon as practicable to avoid those thunderstorms coming in from the west" (App. 25). Moreover, Mohawk's dispatcher Baker from the Utica office testified that if he had had the 4:42 P.M. message, he would not have called Rochester and told them that they had a thunderstorm (App. 446).

In sum, there was no duty on the part of any of the three controllers in the tower to inform Flight 112 of the 4:42 P.M. weather message, and there is no support in this record for the district court's contrary conclusion.

C. Government Personnel Had No Duty
to Give Flight 112 Additional
Visibility Information, Or to
Deny Clearance to the Plane On
the Basis of Visibility.

The district court also found the Government negligent in failing to keep an adequate lookout and advise Flight 112 of changing visibility, and in failing to deny clearance based upon that changing visibility. Again, there was no duty on the part of Government personnel to give such information or take such action. What the district court's statement of an

"adequate lookout" amounts to is that both the weather station technician and tower personnel were required to maintain a constant visibility watch while the storm was approaching. But there was no such requirement in regulation or practice.

The technician Chapman on duty at the Weather Bureau station sent the special observation of the thunderstorm to the tower at 4:43 P.M. (App. 480). At about 4:45 P.M. a Navy pilot went to Chapman for a weather briefing, and Chapman talked to him for three to five minutes (App. 354, 371). This was part of Chapman's regular duties (App. 347-348), and there is nothing in the record to indicate that Chapman was required during such period to keep a watch on visibility to the exclusion of briefing the Navy pilot. Near the end of the briefing the siren sounded indicating the accident (App. 355).

The evidence in this case establishes that tower personnel were absolutely under no obligation to take a visibility observation or transmit it to the plane. The regulations cited by the district court from the Facility Operations Manual (Dft's Exh. 13), ^{14/} and regulations in the Weather Bureau's Manual of Surface Observations, Circular "N" (Dft's Exh. 2) ^{15/} provide that tower personnel are to maintain a watch of prevailing visibility and take such observations only when prevailing visibility at the usual point of observation is less than four miles. And when visibility goes below four miles, it is then

^{14/} Section 471.1 (App. Stat. and Reg., infra, p. 69).

^{15/} Section 2621 (App. Stat. and Reg., infra, p. 70).

the obligation of the local controller to make the visibility observation (App. 116, 458). At Rochester the usual point of observation is the Weather Bureau station. Between 4:45 P.M. and the clearance for Flight 112 to take off, the local controller in the tower looked in all directions of the horizon and found that prevailing visibility was not less than four miles (App. 310-313). The last observation reported by the Weather Bureau at 4:42 P.M. was eight miles. And it may be noted that one of the eyewitnesses to the accident who was himself a pilot stated that before he left the Page Engineering offices on the southern part of the airport at about 4:45 P.M., visibility throughout the horizon was about four miles (App. 104-105, 315).

Moreover, tower personnel had an obligation to advise departing flights of official ceilings and visibility only if they fell below the airport minima, which for Rochester was a 300-foot ceiling and visibility of one mile (App. 308, 459).^{16/} Such minima refers to "prevailing visibility" (App. 308), which is defined as "the greatest visibility which is attained or surpassed throughout half of the horizon circle, not necessarily continuous". At the time of Flight 112's take-off, the official ceiling and the prevailing visibility were not below the Rochester minima (App. 310).

The district court specifically found that Government personnel failed to observe and bring "the sharp visibility change" to the attention of the plane (App. 34). The court in that finding was obviously referring to its earlier finding that

^{16/} See Section 431.6, Air Traffic Control Procedures Manual (App. Stat. and Reg., infra, p. 69).

at the time of the plane's take-off, the transmissometer installed about mid-way on the runway registered a sharp drop in visibility from four miles to one-eighth mile (App. 25). However, the court also found that the transmissometer had not been commissioned, and that under existing regulations its information could not be accepted as the official visibility reading (App. 31-32). From this it follows that it could not have been given to the flight as the official runway visibility. Moreover, on July 2, 1963, and for some time prior thereto the transmissometer was going through a check phase prior to commissioning, as a part of which the Weather Bureau operator looked at it when he had time and checked it with what he saw visually (App. 358-359). The trace from the transmissometer showed that a one-eighth mile recording was in existence for a period of somewhat less than two minutes, and the operator Chapman did not note it at the particular time (App. 25, 343). Further, the record in this case establishes that it is not accurate to speak of the one-eighth mile recording as the runway visibility for even those two minutes. The transmissometer measures the extent of reduction of visibility along its path length, which in this case was 500 feet, but it assumes that conditions are reasonably uniform throughout, which was not the situation here. The court expressly found that just prior to take-off visibility down the runway from the plane to the wall of rain was over one-quarter of a mile (App. 25). The most that can be said for the transmissometer trace recording is that its measurement would have converted to a value of one-eighth of a mile visibility for a very short period had the

visibility on the runway indeed been uniform (App. 343).

In these circumstances, it is crystal clear that Government personnel had no duty to make additional visibility observations or to give the plane any additional visibility information. And because of these same circumstances, the tower personnel had no duty to deny clearance to the flight. In fact, they had no authority to deny clearance.

Under applicable regulations clearances were to be predicated solely upon observed or known traffic or airport conditions which, in the controller's judgment, might constitute collision hazards to aircraft, with specified exceptions. The only exceptions which need be considered on the facts of this case were whether runway visibility was less than one-quarter mile, or if not available, then whether prevailing visibility for the airport was less than one-quarter of a mile. In each of those situations clearance was to be denied. See Sections 411.1, 411.2, 205.4, 411.4, and 431.7 (App. Stat. and Reg., infra, pp.68-69). Since the court specifically found that runway visibility just prior to take-off was over one-quarter of a mile from the cockpit of the plane (App. 25), and since the prevailing visibility as checked by local controller Thorp at about the same time was in excess of four miles (App. 310-313), Government personnel had no duty to deny clearance; in fact, as we have said, they had no authority to do so.

The district court found in this case that there was a continuing duty on the part of the tower to advise the crew

of Flight 112 as to weather conditions (App. 37). That finding is "clearly erroneous". Primary responsibility for procuring weather information rested with the pilot in command of this flight. He was required under F.A.A. regulations to make a careful pre-flight study of available current weather reports and forecasts. 14 C.F.R. 60.11. And under existing regulations and practices there was no such duty upon tower personnel to give additional weather information as the court finds.

Moreover, there is generally no duty to advise a person or warn him of something which is an obvious danger and equally within his knowledge. See Poston v. United States, 396 F. 2d 103 (C.A. 9), certiorari denied, 37 Law Week 3178.^{17/} Here the storm was on the field before take-off and was perfectly obvious to the crew, as is discussed infra, pp. 51-52.

Given knowledge of the thunderstorm by the crew, the question of whether the flight would take-off when cleared was a matter of judgment for the pilot. The tower is not the judge of the pilot's qualifications to fly the plane in any particular kind of weather, and is not the judge of whether the weather is such that the pilot should or should not take off in it. That is solely the pilot's responsibility. Kullberg v. United States, 271 F. Supp. 788 (W.D. Pa.); Smerdon v. United States, 135 F. Supp. 929 (D. Mass.). Applicable regulations clearly

^{17/} See also Prosser on Torts (3rd ed.) §61, p. 403; Keeton "Personal Injuries Resulting from Open and Obvious Conditions", 100 U. Pa. L. Rev. 629.

state that the pilot in command is primarily responsible for the operation of the plane. 14 C.F.R. 60.2. And that responsibility cannot be shifted to the controllers. Tilley v. United States, 375 F. 2d 678 (C.A. 4); United States v. Miller, supra; United States v. Schultetus, supra.

There was, then, no duty on the part of Government personnel to give Flight 112 any additional weather information, or to deny clearance for take-off, and, as pointed out supra, pp. 31-32, without duty there can be no breach and no liability.

II. ASSUMING, ARGUENDO, THAT THE
CONTROLLERS HAD A DUTY UNDER
THE REGULATIONS TO GIVE MOHAWK
FLIGHT 112 ADDITIONAL WEATHER
INFORMATION BEFORE TAKE-OFF,
THE BREACH OF THAT DUTY WAS NOT
A PROXIMATE CAUSE OF THE ACCIDENT.

If we assume for the sake of argument, that there was a duty on the part of Government personnel to give Flight 112 additional weather information, the breach of that duty and resultant injuries is still not enough to impose liability upon the United States. For it is also necessary that the Government's negligence be a proximate cause of the injury. Rivera v. City of New York, 11 N.Y. 2d 856, 18 N.E. 2d 283. In other words, liability may not be predicated upon an act or an omission to act where no causal connection is proved or can reasonably be inferred between the occurrence of the accident and the act or failure to act. Rowlands v. Parks, 2 N.Y. 2d 64, 67, 138 N.E. 2d 217, 219; Shapiro v. Tchernowitz, 155 N.Y.S. 2d 1011, 3 Misc. 2d 617.

New York decisions define proximate cause as that cause which "in a natural and continuous sequence, unbroken by any

new cause, produced the event, and without which that event would not have occurred". Hoggard v. Otis Elevator Co., 276 N.Y.S. 2d 681, 52 Misc. 2d 704; Shapiro v. Tchernowitz, supra. And under New York law an act will not be regarded as a proximate cause unless it could also have been reasonably anticipated that the consequence complained of would result from the alleged wrongful act. Hoggard v. Otis Elevator Co., supra.

Any breach of duty attributable by the district court to Government personnel could not be a proximate cause of this accident, because performance of the duty would not have altered the situation; it would not have given the crew of Flight 112 any information which they did not already have. In other words, it cannot be said that if the tower had given the additional information "the event would not have occurred". Let us take first the 4:42 P.M. special weather observation. That message said "Thunderstorm northwest moving eastward" (App. 24). That the crew was perfectly aware of this fact is evidenced by its request for a change in clearance, when it said "We would like to make a left turn as soon as practicable to avoid those thunderstorms coming in from the west" (App. 25). In the face of that statement, no one can validly say that advice from the tower that a thunderstorm was moving from west to east would have told the crew anything that they did not already know, or in any way would have affected their take-off.

By the same token, it would have made no difference had the tower advised when the storm was expected to hit the field. For the storm was already on the field before the crew took

off, and this was perfectly obvious to the crew. The district court's inference that the crew, or at least First Officer Neff, was not aware that the thunderstorm was on the field (App. 37) is "clearly erroneous". For the wall of rain moving west to east one-half way down the runway just prior to take-off was visible from the plane, as the district court specifically found (App. 25). If it was directly in front of the plane and was visible to a passenger as the plane turned into the runway (App. 324-326), it was certainly visible to the crew in the cockpit. Nor can the court evade the conclusions which flow from that fact by saying, as it does, that the crew could have thought that it was merely a rainstorm.

From 3:15 P.M. on the afternoon of July 2, 1963, the crew of Flight 112 had been constantly and consistently warned that there were thunderstorms in the Rochester area; when they boarded the plane it was dark and getting darker, and dark clouds moved ominously. There was lightning, and there was thunder when the plane was at the gate so loud that it caused the stewardess who was then on the plane, as was the crew, to shudder (App. 179, 320). There was heavy rain before the plane reached take-off position (App. 180); and this increased in intensity prior to take-off until it seemed as if two huge fire hoses were pouring water on the windshield (App. 333). There were wind gusts up to forty miles per hour (App. 357, 473); the runway lights were on (App. 317); and to the stewardess and a passenger it sounded as if stones or pebbles were hitting the plane, which could only be hail (App. 321, 333). These characteristics of the storm were indicia of a thunderstorm

as distinguished from a rainstorm (App. 25). And Mohawk crews were well trained in the observation of thunderstorms and their avoidance, as the court also found (App. 35). It follows from this that even if the tower had advised the crew when the storm was about to hit the field, assuming arguendo that the tower personnel knew this (which does not appear), it would not have changed the action of the crew in taking off as it did.

The same is true with respect to advising the crew of visibility changes. In the first place, we cannot consider the transmissometer trace recording because even if the Weather Bureau technician Chapman had known of this, he could not have reported it as the official visibility to the tower because the equipment had not been commissioned. The tower had no runway visibility, since that refers to visibility on the runway and does not refer to visibility from the tower or the Weather Bureau (App. 464). The crew, sitting on the runway in the plane, had runway visibility, which was more than one-quarter of a mile. The visibility which the tower did have was "prevailing visibility" which is taken by looking around the horizon (App. Stat. and Reg., infra, p. 70). . . That visibility just prior to take-off was at least four miles (App. 310), and this was four times the minimum for a Rochester airport take-off (App. 308).^{18/} It seems perfectly clear that

^{18/} The 4:00 P.M. hourly sequence gave a ceiling of 5,000 feet with broken clouds (App. 23); and the 4:42 P.M. special observation also gave a ceiling of 5,000 feet overcast (App. 24).

advising the plane of this visibility would have had no effect whatever on the plane's decision to take off. The district court, obviously uncertain of its holding that the visibility required the tower to cancel the flight, which as we have seen (supra, p. 41), is entirely incorrect, stated that even if the visibility did not require cancellation of clearance, the information from the tower might well have caused a delay in take-off or a refusal to take off (App. 35). There is nothing in this record to support such a conclusion.

Moreover, visibility was in no sense a factor in the crash. The plane did not collide with another plane or with any object on the airport. The violent turbulence in the thunderstorm caused the crash (App. 26), and the crew could very well see the wall of rain down the runway when they flew into it.

The foregoing plainly demonstrates that any failure on the part of Government personnel to give the flight additional weather information, which the district court charged as negligence, was not a proximate cause of the crash. On the contrary, the negligence of the crew in flying directly into the thunderstorm was the sole proximate cause of the accident. For courts have held that a pilot is responsible for familiarizing himself with all pertinent weather and avoiding flight into hazardous weather conditions, and if he flies into such conditions knowingly, this is negligence which is the sole proximate cause of the accident. Somlo v. United States, 274 F. Supp. 827 (N.D. Ill.) appeal pending, No. 16717 (C.A. 7); Rowe v. United States, 272 F. Supp.

462 (W.D. Pa.). In Somlo, the court characterized the pilot's negligence in flying into hazardous icing conditions of which he knew, as negligence of such magnitude as to bar the claims of all plaintiffs against the United States. And if a pilot flies into unfavorable weather conditions which are "before his very eyes", as they were in the present case, and a crash results, then such flight is the sole proximate cause of any resulting injuries. DeVere v. True-Flite, Inc., 268 F. Supp. 227 (E.D. N. Car.).

In Kullberg v. United States, supra, a non-instrument rated pilot deliberately flew into a solid overcast which was too hazardous for flight by such an unqualified pilot, so that he became disoriented and the plane crashed. Negligence was alleged against the United States because the controller had failed to warn the pilot of the hazardous weather conditions. But the district court quickly went to the crux of the matter and held that the sole proximate cause of the accident was the negligence of the pilot. In the companion case of Rowe v. United States, supra, where recovery was sought from the United States for the death of the plaintiff's decedent who was a passenger in that plane, the district court held that the conduct of the pilot in deliberately descending into the overcast was such recklessness as would supersede any negligence of employees of the United States. The record in the present case demands the same decision here. Whether the action of the crew in knowingly flying into the thunderstorm was the

responsibility of Captain Dennis or of First Officer Neff,
that was the sole proximate cause of the accident.^{19/}

III. PLAINTIFF'S DECEDENT, JOHN W. NEFF,
WAS CONTRIBUTORILY NEGLIGENT, AND
SUCH NEGLIGENCE BARS RECOVERY.

In the district court the Government set up the affirmative defense of contributory negligence (App. 6, 18-19); but the court held that First Officer Neff was not contributorily negligent "in fact or in law" (App. 39). Basic to that conclusion were the court's findings that (1) the crew, or at least First Officer Neff, was not aware that the thunderstorm was on the field (App. 37); and (2) in any event, First Officer Neff was not acting of his own volition, but was taking orders from Captain Dennis, who was the captain in command, notwithstanding that Neff was flying the airplane (App. 38). The first is "clearly erroneous" on the facts, and the second, even if true, does not absolve First Officer Neff from contributory negligence.

New York law defines contributory negligence as conduct on the part of a plaintiff which falls below the standard to which he should conform for his own protection. Hunt v.

^{19/} The district court also found that even if the crew should have known that the thunderstorm was on the field, the "supervening negligence" of the United States was the proximate cause of the accident (App. 38). On the facts here, that cannot be true. For the last act was that of the pilot in recklessly flying into the thunderstorm, when he knew of the hazard involved. That was an independent action and would be a superseding cause relieving the Government from liability. Saugerties Bank v. Delaware & Hudson Co., 236 N.Y. 425, 430, 141 N.E. 904, 905; Leeds v. N.Y. Tel. Co., 178 N.Y. 118, 122, 70 N.E. 219, 220. Cf. Atchison, Topeka & Santa Fe Railway Co. v. Calhoun, 213 U.S. 1, 7.

Schultz, 250 N.Y.S. 2d 378, 21 App. Div. 2d 743. See also Restatement of Torts, 2d, §463.^{20/} The standard is the same as that of negligence on the part of any actor, i.e., failure to exercise that degree of care which a reasonably prudent person would have exercised in similar circumstances. Wenninger v. United States, 234 F. Supp. 499 (D. Del.), aff'd, 352 F. 2d 526 (C.A. 3); Restatement of Torts, 2d, §464.

Where any risk is as perceptible to the plaintiff as to the defendant and the plaintiff takes that risk, he is contributorily negligent. Nucci v. Warshaw Construction Corp., 12 N.Y. 2d 16, 186 N.E. 2d 401. And where one voluntarily submits himself to a peril known to him, or generally readily observable by a person of ordinary prudence in his situation, he cannot recover damages sustained thereby. Conroy v. Saratoga Springs Authority, 284 N.Y. 723, 31 N.E. 2d 197. Further, one is bound to see what, by a proper use of his senses, he might have seen. Powers v. Montgomery Ward & Co., 295 N.Y.S. 712, 251 App. Div. 120, aff'd, 276 N.Y. 600, 12 N.E. 2d 95; Grabel v. Handro Co., Inc., 161 N.Y.S. 2d 998. And he may not, even under order issued by another, act in utter disregard of reasonable prudence without being contributorily negligent. Marco Polo di Suvero v. Gem Window Cleaning Co., Inc., 17 N.Y. 2d 831, 218 N.E. 2d 317.

Contributory negligence is a complete bar to recovery in the State of New York. Casey v. Ross, 10 N.Y. 2d 834, 178

^{20/} Comment: "b. * * * contributory negligence is conduct which involves an undue risk of harm to the person who sustains it".

N.E. 2d 429; Pope v. State, 96 N.Y.S. 2d 708, aff'd, 101 N.Y.S. 2d 1020.

Under the above standards First Officer Neff was contributorily negligent, either in fact or in law, in (1) taking off into a known thunderstorm; (2) failing to use the weather radar in the plane to determine the intensity, location and movement of the storm, or failing to request additional weather information from the tower; (3) sitting in the left seat and piloting the plane when he did not qualify under company regulations; and (4) failing to abort the flight. And that negligence is a complete bar to any recovery in this case.

A. The Take-Off Into A Known Thunderstorm.

As we discussed supra, pp. 44-46, the district court's inference that the crew, or at least First Officer Neff, was not aware that the thunderstorm was on the field is "clearly erroneous". All of the severe weather forecasts and warnings which came to the attention of the crew prior to boarding the plane were in terms of thunderstorms which would hit the Rochester area (App. 21-23). When Dennis and Neff took over the plane at Ithaca they were aware that there was a line of thunderstorms with the appearance of a squall line running northeast to southwest about 75 miles from Ithaca toward Rochester (App. 21, 62-64). Passengers noted the dark skies and ominous clouds while boarding, and thereafter several witnesses saw lightning. Loud thunder was heard by the stewardess before she closed the plane's door; and several witnesses heard thunder both before and after the plane left

the gate. There is no justification for finding that the crew saw and heard none of this. When the flight was in its run-up position just off Runway 28, the runway lights were on (App. 317). The intense rain came, with hail, and Dr. Davenport, a passenger, could see down the runway as the plane was moving a "wall of rain" which obscured all vision beyond it (App. 324). All of the manifestations of the storm taken together were indicia of a thunderstorm, and Mohawk's crews were trained to observe thunderstorms with a view to avoiding them. If witnesses, passengers and the stewardess were aware of these things, certainly First Officer Neff was; and on this record he knew, or should have known, that this was a thunderstorm and that it was on the field prior to take-off.

First Officer Neff also knew that flight into a thunderstorm was hazardous and contrary to sound operating practice. As the district court found, "Mohawk crews had been repeatedly warned of the danger of taking off or flying in thunderstorms and were trained to avoid thunderstorms if at all possible" (App. 35). In flying into this one, at least until he could make a left turn on course and get away from it, First Officer Neff failed to act in accordance with that degree of care required for his own safety, and, therefore, was contributorily negligent.

B. The Failure to Use the Weather Radar
in the Plane Or to Request Additional
Weather Information From the Tower.

The district court found that the plane's radar could be used while the plane was on the ground in an open space such as

that at the end of the runway, but that the crew of Flight 112 "probably did not" use it. In an apparent attempt at excuse, the court then stated that no regulation required the crew to use the radar on the ground (App. 36). But, we submit, the circumstances here existing did require its use at that time. As we have discussed immediately above, the crew was well aware of the thunderstorm moving in by the time it was in run-up position; and the manifestations of the storm required that First Officer Neff in the exercise of due care turn on, or have turned on, the radar so that he could assess the intensity, movement and location of the storm. His weather radar in the plane would give him this information. Plaintiff's witness Joseph W. Meek, a captain for Delta Air Lines who had been flying continuously since 1939 (App. 184-185), testified that he would want to know of the storm cell on the radar scope before taking off because this would be part of the decision as to whether to take off (App. 188-189). And if this is true, then a pilot with as much knowledge of an incoming storm as First Officer Neff had, would certainly be negligent in either not using his weather radar prior to take-off or contacting the control tower for more weather information.

If First Officer Neff chose not to use his own weather radar he had the alternative of asking the tower, or having Captain Dennis ask, for more weather information. The district court found that these were the two alternatives open to the crew to learn more about the storm, but that they did not avail

themselves of either (App. 36). Not to have done so in the existing circumstances was clearly contributory negligence.

C. The Piloting of the Plane By First Officer Neff Without Sufficient Qualifications.

The district court also found that Captain Dennis permitted First Officer Neff to occupy the left, or pilot's, seat and to fly the plane at take-off, and that he was not authorized to do this under company regulations (App. 38). First Officer Neff had these controls contrary to company regulations because he did not have enough hours in a Martin 404 to fly it from the left seat (App. 295-296). Irrespective of whether Captain Dennis, who had overall control of the flight, permitted First Officer Neff to sit in the left seat and fly the plane, Neff knew that he was not qualified to do so, and that he was acting contrary to company regulations. This is contributory negligence on his part. The district court said that it was not shown that his sitting in the left seat contributed to the accident, but, considering that this flight was made into hazardous weather, it is enough that he was sitting in that seat and flying the plane without the necessary qualifications. This was contributory negligence as a matter of law. See Montellier v. United States, 202 F. Supp. 384, aff'd, 315 F. 2d 180 (C.A. 2).

D. The Failure to Abort the Flight.

Considering the length of the runway, the location of the wall of rain and the speed of the plane, the take off of the flight could have been prevented under the operating conditions prevailing before the plane reached the rain wall. The district

court expressly found that the crew "made no effort to abort the flight, although this could have been accomplished safely at any time before the plane reached the rain wall" (App. 26). In attempting to evade the natural conclusion from this that First Officer Neff was contributorily negligent in failing to abort the flight, the court held that the decision to abort was that of Captain Dennis as the captain in command of the flight (App. 38). But, we submit, since First Officer Neff had a duty to exercise that degree of care which a reasonably prudent person would have exercised in similar circumstances for his own protection, he is contributorily negligent, if he breaches that standard; and he is not relieved, even if he acted under orders of another. Marco Polo di Suvero v. Gem Window Cleaning Company, Inc., supra.

In all of the above respects, First Officer Neff was contributorily negligent, and this is a complete bar to recovery in this case. In any event, failure to abort the flight when it could have been done safely, and the reckless flying into the hazardous weather conditions was, as we discussed supra, pp. 47-49, the sole proximate cause of the accident. Therefore, whether the decision was that of Neff or Dennis, there is no liability on the United States. In the present case, the policy of the law can scarcely require the Government to safeguard the plaintiff's decedent against the risk which he voluntarily took, or which was dictated to him by the captain in command. The United States is not an insurer of an airman's safety.

IV. THE MISREPRESENTATION EXCEPTION TO
THE FEDERAL TORT CLAIMS ACT PRECLUDES
THE IMPOSITION OF LIABILITY UPON THE
GOVERNMENT BECAUSE OF THE FAILURE TO
CONVEY WEATHER INFORMATION.

The Federal Tort Claims Act in 28 U.S.C. 2680(h) excludes from its coverage "any claim arising out of * * * misrepresentation * * *." As the Government breached no duty owed to Mohawk Flight 112, as the actions of the Government personnel did not proximately cause the accident, and as plaintiff's decedent Neff was contributorily negligent, it is unnecessary for this Court to consider the applicability of the statute's misrepresentation exception in this case. However, if it be assumed, arguendo, that the Government employees in this case breached a duty proximately causing the accident, and First Officer Neff was not contributorily negligent, the misrepresentation exception furnishes a dispositive ground requiring reversal of the district court's decision.

The Tort Claims Act's misrepresentation exception encompasses negligent as well as intentional misrepresentations. In United States v. Neustadt, 366 U.S. 696, 702, the Supreme Court held "that § 2680(h) comprehends claims arising out of negligent, as well as willful misrepresentation." An alleged negligent failure by a governmental employee to convey weather information falls squarely within the exception.^{21/}

^{21/} Although the Government did not rely on this exception below, it is jurisdictional and can be raised now. Coates v. United States, 181 F. 2d 816 (C.A. 8); United States v. Taylor, 236 F. 2d 649, 652 (C.A. 6); McGillic v. United States, 153 F. Supp. 565 (D. N.D.); Hernandez v. United States, 112 F. Supp. 369 (D. Hawaii). Contra: United States v. Stewart, 199 F. 2d 517 (C.A. 7).

In the present case the court charged the Government with failure to transmit information. And that the misrepresentation exception encompasses a failure to transmit information, as well as the transmittal of wrong information, is clear from the holding of the Eighth Circuit in National Mfg. Co. v. United States, 210 F. 2d 263 (C.A. 8). In that case, the plaintiffs claimed that governmental employees both had given erroneous weather information and had omitted to give other weather information. Regarding the latter category of claims, the Court of Appeals stated (210 F. 2d at 276):

Insofar as the instant claims are based on negligence in failing to inform or warn the plaintiffs that the flood was coming, we think that conduct also is within the exception of section 2680(h). That charge is in substance that the duty rested upon the employees to state or represent the imminence of the flood and that the negligent failure to make any statement had the same effect upon the plaintiffs as the alleged misinformation negligently given. The purpose of excepting federal liability on account of negligent misrepresentation necessarily extends to negligent failure to represent which has the same effect as an affirmative misrepresentation. The intent of the section is to except from the Act cases where mere "talk" or failure to "talk" on the part of a government employee is asserted as the proximate cause of damage sought to be recovered from the United States.

The Eighth Circuit's reasoning is certainly persuasive. In situations where there is an asserted duty to speak, there is no real difference between the failure to report information on the one hand and the reporting of erroneous information on

the other. In either case, the crux of the plaintiff's complaint is the failure to transmit information which should have been given. In either case, there is a breach of the alleged duty to convey the correct information.

In the present case, the crew got its weather information in the operations office, and the tower did not give it any additional information on the storm or on visibility. The court held this to be negligence. But as the Court of Appeals for the Eighth Circuit held: "The purpose of excepting federal liability on account of negligent misrepresentation necessarily extends to negligent failure to represent which has the same effect as an affirmative misrepresentation." National Mfg. Co. v. United States, supra, 210 F. 2d at 276.

We anticipate that it may be suggested that the exception applies only in commercial cases involving pecuniary loss as a result of reliance on the misrepresentation in a transaction between the plaintiff and a third party; and it may be argued that cases holding the Government liable for the negligence of air traffic controllers disclose the exception's inapplicability to this type of case.

Preliminarily, we fully acknowledge that there are many types of negligence actions which could be said to involve an element of misrepresentation, but which Congress probably did not intend to be encompassed by the misrepresentation exception. ^{22/}

Furthermore, it may be difficult to formulate a single principle or theory which separates all of the situations which the courts

^{22/} See, e.g., Indian Towing Co. v. United States, 350 U.S. 61; United States v. Neustadt, supra, 360 U.S. at 711, footnote 26.

have held to be covered by the exception from those situations which have been held to fall outside of it. Nevertheless, in the instant case we are not seeking any extensions of the scope of the misrepresentation exception beyond the present holdings of the courts. Regardless of the applicability of §2680(h) in other contexts, the cases have made it clear that the reporting or failure to report weather information cannot be the basis for governmental tort liability in light of that section.

While the Supreme Court in United States v. Neustadt, supra, 366 U.S. at 711, footnote 26, quoted Dean Prosser's statement that the separate tort of negligent misrepresentation has been confined "very largely to the invasion of interests of a financial or commercial character," the Court did not hold that the misrepresentation exception to the Tort Claims Act was exclusively confined to such situations. On the contrary, the Court's use of the word "largely" and its citation with approval of cases applying the exception to the invasion of other types of interest (366 U.S. at 702-703),^{23/} demonstrates that the Supreme Court was not holding that the exception applies exclusively to the invasion of commercial interests.

Furthermore, the federal courts have consistently held that the exception is broader. See, e.g., National Mfg. Co. v. United States, supra; Clark v. United States, supra; Bartie v. United States, 216 F. Supp. 10 (W.D. La.), aff'd, 326 F. 2d 754

^{23/} E.g., National Mfg. Co. v. United States, supra, and Clark v. United States, 218 F. 2d 446 (C.A. 9), involving direct physical injury to persons and property as a result of weather conditions inadequately reported.

(C.A. 5), certiorari denied, 379 U.S. 852 (all involving direct physical damage to persons and property because of the allegedly inadequate reporting of weather information); Hungerford v. United States, 307 F. 2d 99, 102-103 (C.A. 9); Beech v. United States, 345 F. 2d 872, 874 (C.A. 5) (both cases stating that a Government physician's negligently misrepresenting a patient's medical condition, if unaccompanied by negligent treatment, is excepted under §2680(h)); Tapia v. United States, 338 F. 2d 416 (C.A. 2) (holding that the Government's obtaining of a criminal conviction by means, inter alia, of "false representations," is not actionable because of §2680(h)); Steinmasel v. United States, 202 F. Supp. 335, 338 (D. S.D.) (holding that misrepresentations causing the plaintiff to lose veteran's benefits are covered by the misrepresentation exception). And most recently the Ninth Circuit in DeLange v. United States, 372 F. 2d 134, applied the misrepresentation exception to an interest other than of a commercial character. But contra: Ingham v. Eastern Air Lines, Inc., supra.

The cases cited above, dealing with the misrepresentation exception in circumstances not involving an invasion of commercial interests, hold at least that where the specific activity of the Government being complained of primarily involves the making of verbal or written statements, along with the preliminary steps necessary thereto, and where the plaintiff's injury is directly caused by erroneous oral or written communications or by the negligent failure to so communicate, the misrepresentation exception to the Federal Tort Claims Act prohibits

the imposition of liability upon the Government. As the Court of Appeals stated in National Mfg. Co. v. United States, supra, 210 F. 2d at 276: "The intent of the section is to except from the Act cases where mere 'talk' or failure to 'talk' on the part of a government employee is asserted as the proximate cause of damage sought to be recovered from the United States." On the other hand, where the making of a representation is merely an incidental element in the particular activity being complained of and which causes the injury, the courts have held that the exception is not applicable.^{24/} Furthermore, where the "misrepresentation" does not consist of oral or written statements, but consists of conduct not normally thought of as a communication,^{25/} the exception has not been applied.

^{24/} Thus, where a person goes to a government physician merely for a diagnosis and report as to his condition, the erroneous diagnosis and statement cannot be the basis for liability in light of the misrepresentation exception. However, where the person goes for treatment, the erroneous treatment or failure to treat may be actionable despite the fact that a wrong diagnosis and report concerning the patient's condition was an element in the negligent conduct. See Hungerford v. United States, supra, 307 F. 2d at 102-103, and Beech v. United States, supra, 345 F. 2d at 874, setting forth this distinction.

^{25/} For example, where there has been a failure by the Government to properly warn of impending danger under circumstances where the warning would be expected to take the form of oral or written statements being disseminated, as in the weather report cases, the misrepresentation exception has been applied. However, where the failure to properly warn involves other forms of conduct, such as permitting a beacon lamp in a lighthouse to go out, the exception has not been applied. Compare, National Mfg. Co. v. United States, supra; with Indian Towing Co. v. United States, supra.

In light of these distinctions drawn by the courts, it is apparent that negligence on the part of the air traffic controllers in maintaining traffic separation would not fall within the exception, whereas negligence in the dissemination of weather information would be covered by 28 U.S.C. 2680(h). With respect to maintaining traffic separation, the dissemination of information by the air traffic controllers is merely an incidental element in the carrying out of their function. The maintenance of traffic separation to prevent collisions involves knowing where various aircraft are, observing traffic conditions, giving the planes instructions concerning the altitudes to be maintained and the turns and headings to be made, issuing clearances authorizing them to take certain action, etc. The issuance of an instruction to do something, is not a mere report of information. The responsibility for maintenance of traffic separation entails much more than reporting facts or anticipated conditions.

However, the air traffic controller's function in reporting weather conditions is quite different. He makes no decisions and issues no instructions. The controller's role is limited to informing aircraft of existing or expected weather conditions. He merely receives the Weather Bureau's report and transmits it to aircraft. Here, the making of or failure to make representations is not just an incidental part of the activity; it is the essence of the activity. The controller's statement regarding weather conditions are no different than the representations by other government employees which have been

held to be embraced by the misrepresentation exception to the Federal Tort Claims Act.

The majority of the federal courts have held that the issuance of erroneous weather reports or the failure to report weather information cannot subject the Government to tort liability in light of 28 U.S.C. 2680(h). In National Mfg. Co. v. United States, supra, 210 F. 2d 263, both persons and property were injured from flood waters when two different rivers overflowed. The allegations of negligence in that case involved erroneous weather reports as well as the failure to issue reports, and involved representations as to future weather conditions as well as the failure to report present facts already known by government employees.^{26/} However, the Court of Appeals for the Eighth Circuit held (210 F. 2d at 275):

In view of the allegations of the complaints we hold that the activity of the government employees on which the actions are based were misrepresentations within the meaning of section 2680(h). To misrepresent means "to give a false, improper or imperfect representation" and that is the charge against the government employees here.

The Eighth Circuit's holding was followed by the Ninth Circuit in Clark v. United States, supra, 218 F. 2d at 452, where it was alleged that employees of a federal housing agency issued inadequate weather reports to persons in a housing development. See also, Bartie v. United States, supra, 216 F. Supp. at 20-21. These cases, holding that the inadequate reporting of weather information by government employees is excluded as a basis for governmental liability in light of the misrepresentation

^{26/} See the allegations summarized in 210 F. 2d at 266-269.

exception to the Federal Tort Claims Act, are dispositive
here.^{27/}

CONCLUSION

For the foregoing reasons, the judgment of the district court should be reversed.

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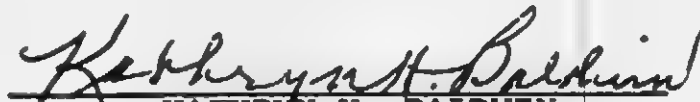
^{27/} The Second Circuit in Ingham v. Eastern Air Lines, Inc., 373 F. 2d at 238-239, went into conflict with National Mfg. Co. v. United States, supra, Clark v. United States, supra, and Bartie v. United States, supra, holding that the misrepresentation exception is confined to interests of a commercial and financial character. We think that holding is in error, and, as discussed supra (p. 59), the Supreme Court in United States v. Neustadt, supra, did not limit the exception exclusively to such interests.

CERTIFICATE OF SERVICE

I hereby certify that on this 30th day of December, 1968,
I mailed, postage prepaid, two copies of the above and fore-
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APPENDIX OF STATUTES AND REGULATIONS

Section 1346(b) of Title 28, United States Code, provides:

(b) Subject to the provisions of chapter 171 of this title, the district courts, together with the United States District Court for the District of the Canal Zone and the District Court of the Virgin Islands, shall have exclusive jurisdiction of civil actions on claims against the United States, for money damages, accruing on and after January 1, 1945, for injury or loss of property, or personal injury or death caused by the negligent or wrongful act or omission of any employee of the Government while acting within the scope of his office or employment, under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred.

Section 2680(h) of Title 28, United States Code, provides:

The provisions of this chapter and section 1346(b) of this title shall not apply to--

(h) Any claim arising out of assault, battery, false imprisonment, false arrest, malicious prosecution, abuse of process, libel, slander, misrepresentation, deceit, or interference with contract rights.

Regulations in 14 C.F.R. (revised as of January 1, 1963) provide in pertinent part as follows:

Section 40.355 Manipulation of controls.

No person other than a qualified pilot of the air carrier shall manipulate the flight controls during flight, * * * (exceptions not pertinent).

Section 60.2 Authority of the pilot.

The pilot in command of the aircraft shall be directly responsible for its

operation and shall have final authority
as to operation of the aircraft. * * *

* * * *

Section 60.11 Preflight action.

Before beginning a flight, the pilot in command of the aircraft shall familiarize himself with all available information appropriate to the intended operation. Preflight action for flights away from the vicinity of an airport, and for all IFR flights, shall include a careful study of available current weather reports and forecasts, taking into consideration fuel requirements, an alternate course of action if the flight cannot be completed as planned, and also any known traffic delays of which he has been advised by air traffic control.

Section 60.12 Careless or reckless Operation.

No person shall operate an aircraft in a careless or reckless manner so as to endanger the life or property of others.

* * * *

Section 60.60 Definitions.

As used in this part, terms shall be defined as follows:

* * * *

Air traffic clearance. Authorization by air traffic control, for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within controlled airspace.

* * * *

The F.A.A. Air Traffic Control Procedures Manual, AT P.

7110.1A (Dft's Exh. 12) provides in pertinent part:

352.1 Whenever storm areas such as apparent thunderstorms, rain showers or squall lines can be discerned on the radar display, information concerning them shall be provided to pilot when considered advisable by the controller.

411.1 Clearances, instructions and information issued by airport traffic controllers shall be predicated solely upon observed or known traffic or airport conditions which, in their judgment, may constitute collision hazards to aircraft. This may include the positions of aircraft in flight or parachutists within the control zone, aircraft operating on the movement area, and observed or known vehicular traffic and temporary obstructions on or immediately adjacent to said area.

411.2 Except as set forth in 205.4 A and B, 411.4 and 431.7, denial of clearance for an aircraft to land or take off shall be based solely on considerations of traffic.

205.4 Requests for Special VFR Operation--
Visibility Less Than One Mile

Requests for authorization of special VFR operation within control zones, by other than helicopters, when the flight and/or ground visibility, as appropriate, is less than one mile, shall be treated as follows: * * *

411.4 Clearance shall not be issued for an aircraft to land on or take off from a "closed" runway, * * *

431.7 Take-off clearance shall be denied to the pilot of any air carrier or commercial aircraft carrying passengers or property for compensation or hire whenever:

A. The runway visual range (RVR) for the departure runway is less than 2000 feet;

B. If RVR is not available, runway visibility for the departure runway is less than one quarter of a mile; or

C. If neither RVR nor reported runway visibility is available, the prevailing visibility for the airport of departure is less than one quarter of a mile.

431.6 Official ceiling and visibility shall be issued to departing flights prior to commencement of take-off, as set forth below:

A. To VFR flights--when the ceiling and/or visibility is less than that required for VFR flight; and

B. To IFR flights--when the ceiling and/or visibility is less than that published as the highest take-off minimum for the airport.

The F.A.A. Facility Operations Manual, AT P 7230.1

(Dft's Exh. 13) provides in pertinent part:

471.1 Visibility observation shall be taken from the control tower during periods when the visibility at the usual point of observation is less than 4 miles. Such observations shall be taken by weather station personnel when available, or by control tower personnel when weather station personnel are not available. . . .

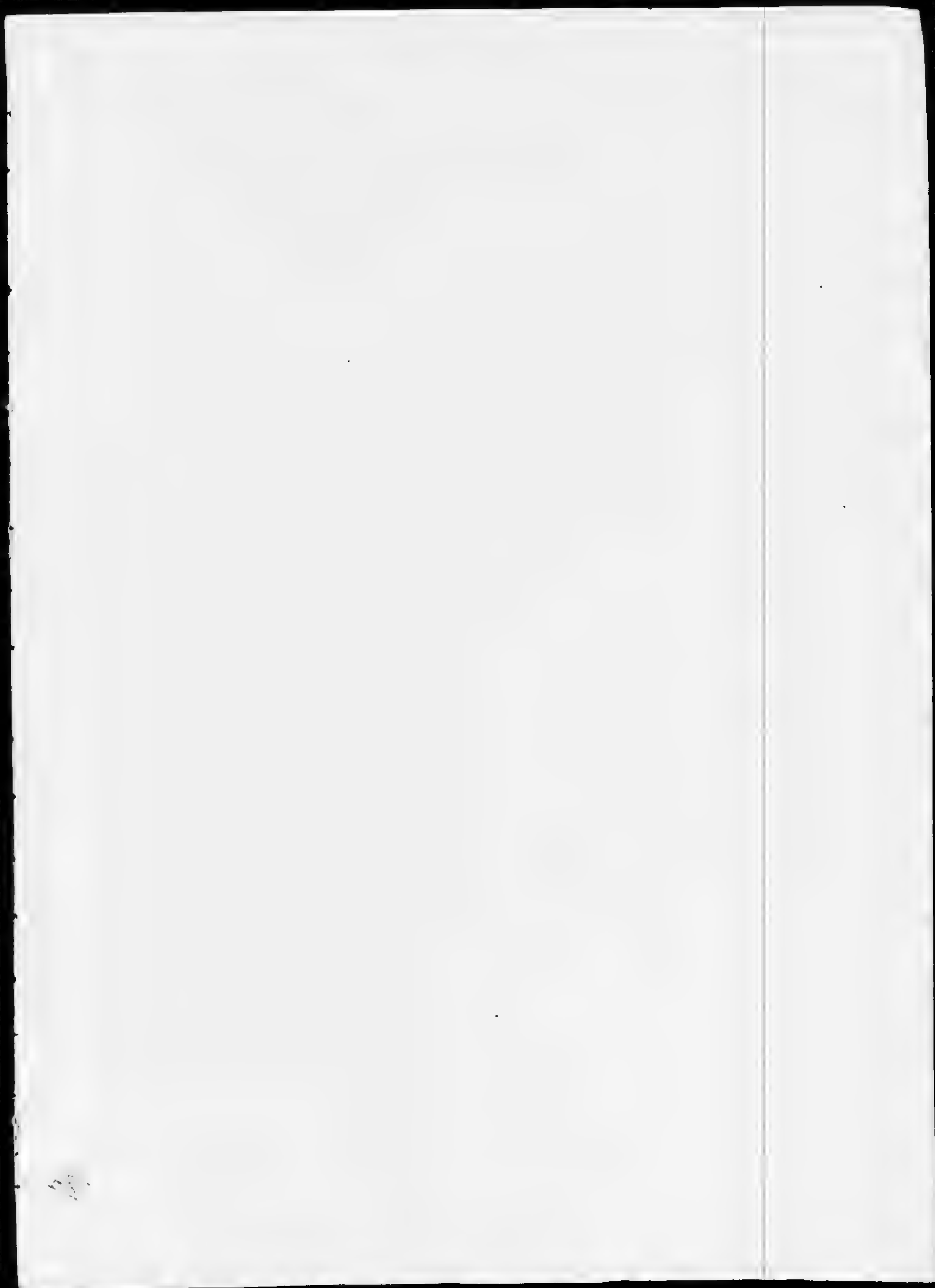
471.5 Visibility observations taken by control tower personnel are considered official as soon as the observation is recorded in the tower. Therefore, such visibility observations may be transmitted to pilots or aircraft whenever necessary.

. . .

The Manual of Surface Observations, Circular "N" (Dft's
Exh. 2) provides in pertinent part:

2621. (WB,N) Control Tower Action.
Unless otherwise authorized, control
tower personnel certificated for the
purpose will maintain a continuous watch
of prevailing visibility when the prevail-
ing visibility at the usual point of
observation (see ¶2622) is less than 4
miles. * * *

2210. Definition. Prevailing
visibility is the greatest visibility
which is attained or surpassed throughout
half of the horizon circle, not necessarily
continuous. The term is synonymous with
the term "horizontal visibility," as used
in the synoptic code. Under nonuniform
conditions the sectors may be distributed
in any order. Under uniform conditions the
prevailing visibility is the same as the
visibility in any direction. If the
visibility is variable (i.e., the pre-
vailing visibility rapidly increases and
decreases by one or more reportable values
during the period of the observation) use
the average of all observed values as the
prevailing visibility. Report the visibility
as variable only if the prevailing visibility
is less than 3 miles.



634

BRIEF FOR THE APPELLEE

IN THE
United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 22,262

JOAN S. NEFF, Administratrix of the Estate of JOHN W.
NEFF, Appellee,

v.

UNITED STATES OF AMERICA, Appellant.

On Appeal From the United States District Court for the
District of Columbia

United States Court of Appeals

APPELLATE

2d Circuit

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FILED FEB 3 1939

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INDEX

	Page
COUNTERSTATEMENT OF THE CASE	1
SUMMARY OF ARGUMENT	16
 ARGUMENT	
I. Government Personnel Had a Continuing Obligation To Furnish Mohawk Flight 112 With All Significant Weather Information	18
II. Government Personnel Had a Clear Duty To Furnish Mohawk 112 With Visibility Information and To Deny or Cancel Clearance To Take Off	26
III. The Negligence of the Controllers Was a Proximate Cause of the Accident	32
IV. The Court Below Was Correct in Its Finding That John W. Neff Was Not Contributorily Negligent	33
V. The Misrepresentation Exception (28 U.S.C. 2680(h))	43
VI. The Findings of Fact Were Based Upon Substantial and Convincing Evidence	50
CONCLUSION	51

TABLE OF CASES AND AUTHORITIES

CASES:

Brown v. United States, 193 F. Supp. 692	48
Carr v. Yokohama Specie Bank Ltd., 200 F. 2d 251 (9th Cir. 1952)	50
*Eastern Airlines v. Union Trust Co., 95 U.S. App. D.C. 189, 221 F. 2d 62 (D.C. Cir. 1955)	37, 49
Eastern Airlines v. United States, 110 F. Supp. 491, aff'd at 207 F. 2d 560 (3rd Cir. 1953)	37

* (Cases heavily relied upon by Appellee)

	Page
Greenlish v. N. Y. Central R. Co., 286 N.Y.S. 2d 61, 29 A.D. 2d 159 (1968)	34
*Hartz v. United States, 387 F. 2d 870 (5th Cir. 1968)	20, 48
*Indian Towing Co. v. United States, 350 U.S. 61 (1955)	20
*Ingham v. Eastern Air Lines, Inc., 373 F. 2d 227 (2nd Cir. 1967), certiorari denied 389 U.S. 931	20, 21, 43, 45, 46, 49
Kenton v. State, 285 N.Y.S. 2d 758, 29 A.D. 2d 64 (1967)	34
*Kross v. Kelsey Hayes Company, 287 N.Y.S. 2d 926, 29 A.D. 2d 901 (1968)	34
Marco Polo di Suvero v. Gem Window Cleaning Co., Inc., 17 N.Y. 2d 831, 218 N.E. 2d 317	41
Mason v. Lory Dress Co., 102 N.Y.S. 2d 285, 277 App. Div. 660 (1951)	35
Montellier v. United States, 202 F. Supp. 384, aff'd 315 F. 2d 180 (2nd Cir. 1962)	39, 40
National Mfg. Co. v. United States, 210 F. 2d 263 (8th Cir. 1954)	46
Neher v. United States, 265 F. Supp. 210 (1967)	44
Penn-Texas Corp. v. Morse, 242 F. 2d 243 (7th Cir. 1957)	51
*Schilling v. Schwitzer-Cummings Co., 79 App. D.C. 20, 142 F. 2d 82 (D.C. Cir. 1944)	50
Somlo v. United States, 274 F. Supp. 827	49
*Stewart v. United States, 199 F. 2d 517 (7th Cir. 1952)	44
Stork v. United States, 278 F. Supp. 869	49
Summerbell v. Elgin National Watch Company, 94 App. D.C. 220, 215 F. 2d 323 (D.C. Cir. —)	50
*Tyrell v. State of N.Y., 176 N.Y.S. 2d 530, 6 A.D. 2d 958 (1958)	34, 35, 38
United States v. Neustadt, 336 U.S. 696 (1961) ..	45, 46, 49
*United States v. Furumizo, 381 F. 2d 965 (9th Cir. 1967)	22, 23
United States v. Wiener, 335 F. 2d 379 (9th Cir. 1964)	49
Wells v. St. Louis, 126 N.Y.S. 2d 413, 282 App. Div. 1105 (1953)	35

* (Cases heavily relied upon by Appellee)

Index Continued

iii

Page

STATUTES AND REGULATIONS INVOLVED:

Rule 52 (a), Federal Rules of Civil Procedure	35, 50
28 USC 2680 (a)	49
28 USC 2680 (h)	18, 43
Civil Air Regulation 60.2	41
FAA Air Traffic Control Procedures Manual, at p. 7110.1A	
Section 352.1	27
Section 431.7	9, 27
Section 471.1	30
Section 471.5	27, 30
Manual of Surface Observations, Circular "N"	30

MISCELLANEOUS:

Restatement of Torts, 2d § 476	33, 34
Senate Report No. 1400, 79th Cong. 2d Sess., p. 33 (1946)	44
"Handling Federal Tort Claims", Jayson	47
"The Law of Torts" Harper and James	48



Statement of the Issues Presented

1. Whether the Government had a duty to provide the Mohawk airplane in which decedent Neff was co-pilot with accurate, complete, current weather information concerning a thunderstorm expected to hit the Rochester-Monroe airport at takeoff time.

2. Whether Government personnel in both the control tower and Weather Bureau Station at the airport negligently failed to keep a proper lookout and to advise the plane of diminishing visibility conditions connected with an approaching storm.

3. Whether the Government operated control tower should have canceled the flight temporarily or denied take-off clearance in the exercise of due care and in accordance with the controlling air traffic control regulations.

4. Whether decedent was contributorily negligent.

5. Whether the "misrepresentation" exception to the Federal Tort Claims Act has any application to the facts in this case.

*THIS CASE HAS NOT HERETOFORE
BEEN BEFORE THIS COURT*



IN THE
United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 22,262

JOAN S. NEFF, Administratrix of the Estate of JOHN W.
NEFF, *Appellee*,

v.

UNITED STATES OF AMERICA, *Appellant*.

On Appeal From the United States District Court for the
District of Columbia

BRIEF FOR THE APPELLEE

COUNTER-STATEMENT OF THE CASE

Appellee claimed specific acts of negligence in addition to the negligence of the control tower in failing to withhold clearance for takeoff of the Mohawk plane and in failing to provide certain weather information to the Mohawk plane prior to takeoff. Appellee alleged that appellant was negli-

gent in not bringing to the attention of the Mohawk crew the special 4:42 P.M. weather report which warned of the beginning of a thunderstorm in Rochester. The air traffic controllers in the control tower and in the instrument flight rules center at Rochester-Monroe Airport were further negligent in not warning the crew of Mohawk Flight 112 of the dangerous weather conditions approaching the airport just prior to takeoff and in not apprising said crew of rapidly changing weather conditions. Finally, appellee alleged that appellant further violated certain requirements and provisions of the Air Traffic Procedures Manual which will be referred to hereinafter. (R. 44 Pretrial Statement).

The Rochester-Monroe Airport Control Tower was about 40 feet above the ground and had a clear, unobstructed view to the east, north and west. (App. 279-281). Situated on the southern portion of the field, it looked across the field to the north where the terminal was located. On the other hand, the cockpit of the Mohawk airplane which crashed would only be 12 to 13 feet above the ground. The instrument flight rules traffic room was in the same building as the control tower, two stories below it. (App. 173). The airport weather station facilities were located at ground level in a building close to the tower and were connected to the tower by an instant "hot line" phone which made immediate communication either way possible. (App. 375).

Runway 28, the runway used by Mohawk Flight 112 at the time of takeoff, ran approximately east and west, halfway between the tower and the terminal. (App. 477).

Airplanes are accustomed to flying when thunderstorms are forecast. A pilot will simply try to fly in a manner that will enable him to avoid the thunderstorm. Likewise airplanes fly in heavy rain (App. 200, 214).

While Mohawk operating procedures required that the radar in the plane be operative, turned on and warmed up

before the plane left the ramp, said procedures did not require a scanning or examination of the radar at that time. It was impossible and improper to test radar near the terminal for fear of radiation damage or injury to the equipment although the plane's radar could be tested and actually used while the plane was on the ground so long as it was in an open area such as the end of the runway. It was not customary for flight crews to use the radar for thunderstorm detection from the ground, although this could be done. (App. 35-36, 209).

An air traffic control tower is in a better vantage point than an airplane on the ground to note the movement of a storm. Visibility from the cockpit of a plane like Mohawk's, if there is rain on the windshield, is not of the best. The problem in viewing a storm from head on in the cockpit of an airplane on the ground is the fact that you are fairly close to the ground and you have a restriction of visibility. Windshields have some discoloration, and most of them have oil skim or something comparable on them. Visibility is not of the best to view a storm head on because one does not have much relative motion from the storm. (App. 187).

Nor was it standard practice at Mohawk Airlines to listen to the local VOR radio report while on the ground at Rochester-Monroe Airport. (App. 207)

Additions to Sequence of Events

4:38 P.M.—Mohawk Flight 186 coming from Buffalo, New York, landed at Rochester on Runway 28. (App. 67).

4:43 P.M.—the Telautograph message transmitted by the Weather Station technician to the Air Traffic Control Tower marked received at 4:44 P.M., was not passed on to the crew of Mohawk Flight 112 by the tower. (App. 158,394)

4:44 P.M.—American Airlines flight 453 was cleared by the Air Traffic Control Tower for takeoff from Runway 28, the same runway used by Flight 112 four minutes later.

Flight 112 could have seen the takeoff and could even have heard contacts between the Air Traffic Control Tower and American. (App. 24, R. 1259).

4:45 P.M.—American Airlines took off from Runway 28 (App. 125-126, 140). This was at the time Mohawk 112 was scheduled to leave the gate and the plane started to taxi from the terminal to the runup area at the end of Runway 28, having received the required clearance from the tower. The Weather Bureau technician Chapman did not, at any time, see either the American or Mohawk Flight 112 on the occasions of his observations from within or without the Weather Bureau station. (App. 376).

A wall of rain moving from west to east up Runway 28 could be seen from the tower.

4:46 P.M.—The tower authorized the American Airlines Flight, then airborne, to turn westbound in order to get out of the precipitation.

4:48 P.M.—The American Airlines Flight advised the tower that it would like to go a little bit further south to get away from chop and permission was granted by the tower. (App. 25 Plaintiff's Exhibit 44).

At the same approximate moment, 4:48:41 P.M., Mohawk 112 was cleared for takeoff on Runway 28. Still in the run up position, Captain Dennis called the tower stating, "We would like to make a left turn as soon as practicable to avoid those thunderstorms coming in from the west." (App. 164)

At this moment the Transmissometer, which was located at about the middle of Runway 28, suddenly recorded a sharp drop from a four mile visibility reading to a one-eighth of a mile visibility reading. (App. 235). The thunderstorm was on the field. The Transmissometer recorded this information in the weather station. This reading was not noted by Mr. Chapman, the Weather Bureau

technician, who was at the time briefing a Navy pilot who was visiting the station. (App. 354-355).

While the Transmissometer was not commissioned until September 1, 1963, it was commissioned without any modifications being made to the projector between the date of the accident and the commissioning, and was being used by the Weather Bureau on the afternoon of the accident at which time it was found to be operating satisfactorily. (App. 341-342). (App. 373). (R. 11, 12, 22)

4:49:26 P.M.—The tower advised Mohawk 112 to make a left turn on course and cleared the plane for takeoff from Runway 28 on the revised course requested. (App. 166).

The plane used for Flight 112 was in sound operating condition. It was not overloaded and its instruments, including radar, were in good working condition. It was operated from the proper runway. (App. 26).

It was the thunderstorm which enveloped Flight 112 immediately at takeoff that caused the plane to crash. The storm had typical manifestations of thunder, lightning, hail, gusts of wind, and turbulence. The backdraft or eddy, a typical aspect of such storms, contributed. There was an 180° wind change involved which necessarily caused the plane to lose buoyancy. This, coupled with the violent turbulence of the storm, the added weight of the rain and other factors, forced the ship out of control and into a crash, in spite of the combined efforts of the crew. (App. 26).

The Weather Bureau

The Weather Bureau meteorological technician Chapman was in the Weather Bureau station on the ground floor of a building located on the south side of the airport. (App. 348). There was both a direct line of communication with the Air Traffic Control Tower by means of a Telautograph

and a "hot line" means of instantaneous phone connection between the Weather Bureau and the tower. He had seen the severe weather forecast when he arrived on duty at 4:00 P.M. and knew that the forecast referred to severe thunderstorms. (App. 348-350). He could see clouds indicating the approach of a thunderstorm in the northwest area of the field, (App. 369) when he made the observation just prior to the 4:43 Telautograph message which he sent to the tower. He at no time saw the American or Mohawk plane. (App. 376). He made no further visibility check of the field, (App. 405) but proceeded to spend the balance of the time from the 4:43 message to the accident briefing a Navy pilot (App. 405, 406) who had come into his Weather Bureau station.

Although another Government employee, Mr. Williams, was in the Weather Bureau station at the time, the witness had no contact with him after making the observation which led to the 4:43 Telautograph message, and he did not ask Mr. Williams to take over his duties while he was talking with the Navy pilot. (App. 370-372). He further testified that although the Transmissometer was not commissioned, he used it as a guide and found it to be accurate. (App. 373). In answer to a question of the Court as to whether he had checked the nature of the aircraft operations that might be coming in and out of the field, he answered he had not because he had given the information relative to the thunderstorm to the tower and he believed that the tower had radio contact with interested parties. The witness further testified that Mr. Williams was tracking the storm on radar. Mr. Williams did not testify at the trial. The witness estimated that the storm was 4-5 miles away from the field at 4:40 and further that Mr. Williams advised him that it was traveling at a speed of 35 to 40 miles an hour. (App. 413). He conceded it was his responsibility to observe the approaching storm. (App. 414).

The Control Tower

At the time a pilot is ready to leave Rochester-Monroe Airport, he contacts the tower by radio and requests his clearance. This request is then forwarded to the Traffic Control Center. The Center assigns a route and altitude for the flight. This then authorizes the tower to release the flight. The Ground Controller issues a taxi clearance and instructs the plane to follow certain taxiways to a runway, generally with instructions to hold short at the active runway. (App. 275). It is instructed to change frequency and contact the local controller who has jurisdiction over the active runway. The local controller issues the clearance for the aircraft to enter the active runway and subsequently to take off. Once the aircraft has taken off and at some specified point which may be the far end of the runway, the pilot is again instructed to change frequency and to contact the departure radar controller who would take over the control from there and who thereafter would instruct the pilot to change to a frequency which would put him in direct contact with the Air Traffic Control Center controlling the flight until termination. (App. 277, 278). The regulations covering both Federal Aviation Administration and the Weather Bureau require at places such as Rochester where each has an installation that agreements be drawn, delineating the duties and responsibilities of each station. It is incumbent upon both organizations to know precisely what is expected of the other. This is a team effort and includes various weather phenomena that affect air traffic control and any changes significant enough to require a special weather report. (App. 281).

Once the visibility at an airfield where there is a control tower such as at Rochester drops below 4 miles, it becomes the responsibility of the tower observers to take visibility observations and to report them to the pilots, as well as to the Weather Bureau. (App. 280).

The witness DiStasio, the Air Traffic Control specialist, the ground controller in the tower at the time of the ac-

cident, had a position of vantage high above the field and he was in a position at all times to see Runway 28. The tower cab is glassed in on all sides.

It was his duty to advise or transmit a taxi clearance or taxi information to the pilot of a departing aircraft, directing him to the runway, the issuance of wind velocity and direction, altimeter setting and a time check, in that order. He received a request for this information from Flight 112 at 44 minutes past 4:00 P.M. (App. 113). He then issued taxi instructions to the aircraft, supplied it with the wind direction, velocity, altimeter setting and time check. He also cleared him to Runway 28 and gave Mohawk an instrument flight rules clearance to White Plains. (App. 114). This witness was aware of the severe weather warnings that had been put out that afternoon prior to Flight 112's departure. (App. 115). If and when the visibility goes below 4 miles, according to this witness, the local controller in the tower takes the observation. If it is over four miles, it is the duty of the Weather Bureau at the airport to take visibility. (App. 116). If he had observed any high wind while the plane was on his frequency, it would have been his duty to warn the pilot. (App. 117). The 4:43 Telautograph message was not brought to his attention and the only one he himself received or was aware of before the accident was a 4:00 P.M. forecast.

Although messages were received regularly from the Weather Bureau and could be instantaneously transmitted, he was not aware of the 4:43 message which would have been received on the Telautograph machine seven feet from the position he was occupying, (App. 122-123) although a buzzer was used by the Weather Bureau to notify the tower of the transmission. Had he been aware of the 4:43 P.M. message, it would have been his duty to pass this information on to Flight 112. (App. 131-132).

He instructed Mohawk 112 to contact the local controller, saw Mohawk on Runway 28 and for the first 25

or 50 feet it traveled, then was in contact with the Cleveland Air Traffic Control Center, to whom he gave Mohawk's departure time as 4:49. (App. 139).

If a tower controller is aware of the fact that runway visibility is less than one-fourth of a mile, takeoff clearance would be denied and this would be the tower controller's duty under section 431.7 of the Air Traffic Control Procedures Manual which provides:

"Takeoff clearance shall be denied to the pilot of any air carrier or commercial aircraft carrying passengers or property for compensation or hire whenever:

(a) The runway visual range (RVR) for the departure runway is less than 2,000 feet;

(b) If RVR is not available, runway visibility for the departure runway is less than one-fourth of a mile; or

(c) If neither RVR nor reported runway visibility is available, the prevailing visibility for the airport of departure is less than one-fourth of a mile." (App. 143-144, Appellant's Brief, 69)

A local controller must advise aircraft of high winds. (App. 145). If he knew a thunderstorm was on the edge of the airport, he would advise an aircraft concerning the lowering of visibility. (App. 146). He had a continuing responsibility to taxiing aircraft. If he had received the weather report of 4:43 P.M., he would have been required to pass this information on to Flight 112. (App. 147).

Mr. Thorp was local controller in the Rochester tower on the afternoon of the accident. (App. 150). His duties were to promote the safe, orderly and expeditious patrol of aircraft arriving and departing at the airport and also to some extent, aircraft on the ground. (App. 150). A pilot coming upon his frequency would request takeoff clearance and he would clear him for takeoff upon coordination from departure control. (App. 151). On that afternoon when

he came into the Instrument Flight Rules Room, below the control room, he observed some activity on the radar-scope in the form of an echo denoting thunderstorm activity. (App. 153). He did not know how far away the thunderstorm was except that it was west-northwest and made no determination of its direction or speed. (App. 154). He sat on the east side of the control tower and was either sitting or standing in that position when Flight 112 requested taxi instructions. (App. 155). Mr. DiStasio, the ground controller, sat immediately to his left and the flight service specialist on DiStasio's left. All three sat facing north, looking out of the tower cab. (App. 156). Just prior to the time he gave Flight 112 clearance, he observed lightning in the northwest. He received no information concerning any thunderstorms prior to clearing Mohawk for takeoff. (App. 156). The Telautograph message of 4:43 should have been brought to his attention. In the event the local controller receives a weather report or weather information which, in his judgment, would adversely affect a flight, it would be his practice to advise the pilot accordingly. (App. 158). He gave Mohawk 112 the wind direction and wind velocity just prior to takeoff but no other information. At the time, he was working no other aircraft. (App. 159). He had worked American 453 which took off approximately four minutes before Flight 112. (App. 159). The interval between the first message from Mohawk 112 and the last message from Mohawk was 55 seconds. The first message requested takeoff clearance and the last message was an acknowledgment by the witness of a message from Mohawk. (App. 162). Take-off time of 112 was 4:49 P.M. which could have been as late as 4:49:29. (App. 162).

After Flight 112 requested a takeoff clearance, he checked with Mr. Sufrin in department control which was located in the IFR room, two stories below the tower, (App. 163, 172-173), and he obtained from Mr. Sufrin a release after which he cleared Mohawk 112 for takeoff. (App. 163).

Mohawk 112 then stated it would like to make a left turn out as soon as practicable to avoid thunderstorms coming in from the west. (App. 164). This was a request for a different takeoff clearance and Mr. Sufrin approved the request. (App. 165). The witness then advised Mohawk to delete its runway heading, to turn left, and to climb on course, giving him the wind. (App., 166). He did not see the 4:43 Telautograph message before the accident. When he issues an aircraft a takeoff clearance, and the official prevailing visibility is above a quarter of a mile, he warrants to the pilot of the aircraft that it is safe to take off, putting conflicting traffic aside. (App. 168). Mohawk disappeared approximately 1500 feet down Runway 28. The area of precipitation was moving across the field from west to east. (App. 169). It was his job to advise a pilot of any adverse weather which he did not know of and which might adversely affect a flight under his control. (App. 171).

Mr. Howell was the Enroute Controller in the Rochester Control Tower on the afternoon of the accident. He was the man in the tower who had the responsibility of determining whether a particular message was or was not of immediate consequence to someone in an aircraft about to take off and it was his obligation to advise the local controller concerning weather information which would have a direct bearing on the control of traffic in order that the local controller might get the information to an airplane using the facilities of the field. (App. 399-400).

He was required to remove messages from the Telautograph actually located at his position. (App. 379). He actually removed the 4:43 P.M. critical weather report sent by Mr. Chapman, the weather technician, from the Telautograph at 4:44 P.M. but did not call it to either Mr. DiStasio's or Mr. Thorp's attention prior to the accident. (App. 394). Nor did he at any time discuss the weather or weather report with these men. (App. 393). Instead,

he commenced his regular 4:45 broadcast on the Rochester VOR frequency (App. 382) and said broadcast took him approximately three minutes. (The crew of a plane preparing to take off from an airport would not be listening to this frequency.) (App. 204-206). According to Mr. Howell, traffic was extremely light and he was not specifically watching what was going on outside of his tower. He did not even recall specifically observing the weather although all he had to do to observe it was to look out of the window, (App. 391) and had no recollection of seeing Mohawk 112 at any time before the accident. (App. 392). He admitted that he was aware that it was dark to the west or northwest but did not watch the visibility or the general conditions. (App. 396).

Mr. Sufrin, an air traffic control specialist, testified that on the day of the accident, he was in the Departure Control Division of the IFR room, two stories below the control tower. His duties were to separate known IFR traffic within the confines of the Rochester control area. (App. 172-173). When he came on duty at 4:00 P.M., he observed a large intense echo on the radarscope west-northwest of the field and he prepared plaintiff's exhibit No. 24, a radarscope drawing of what he observed. He was in contact with the tower at the critical time. (App. 176).

Captain Meek, a pilot for Delta Airlines, testified that he would want the information contained on plaintiff's exhibit No. 25, the Sufrin Exhibit, to use in reaching a decision as a Captain as to whether or not he should take off. If he had been shown the Telautograph report of 4:43 P.M., he would have considered it and certainly taken a further look at the actual situation before taking off because this would have been more important than a weather forecast to him and would constitute an actual occurrence. (App. 190). If he had received this information, he would have probably taxied down to the end of the takeoff run-

way and might have climbed off the airplane to look at the weather. (App. 191).

If he knew that the thunderstorm was there, one of the things that he could do as the pilot of a commercial airplane was to ask for a vector to circumnavigate the thunderstorm and the message from Mohawk 112, "We would like to make a left turn out as soon as practicable to avoid those thunderstorms coming in from the west" is an indication that the crew saw or knew of the existence of the thunderstorm. (App. 198). He would consider it good pilot practice to take off in heavy rain, he had done so, he would continue to do so, and he had never seen a good set of windshield wipers on an airplane. Rain is not the only factor. Wind is a problem; as are gusts and visibility. (App. 200). Plaintiff's Exhibits 24 and 25 indicate that at 4:48 P.M., the easterly edge of the thunderstorm had moved to just about west of the airport. (App. 203).

He further testified that a Captain was in command of the aircraft at all times regardless of which seat he was in, that a co-pilot would have to comply with the Captain's orders and that the Captain had final authority with respect to takeoff, (App. 193, 200, 211) even if the co-pilot was at the controls. The witnesses Brown and Harrar likewise testified to this. (App. 183, 193, 210).

The witness Crow, the experienced and well trained meteorologist, testified that WBAN Form 10-A, Exhibit No. 33 (App. 473-474) indicated that the aircraft accident occurred at 4:49 P.M. Using Exhibit 29 which is the table that gives the values to be used in determining visibility for the Transmissometer, at approximately 48 minutes past the hour, there was an abrupt drop on the scale of the Transmissometer chart from well above four miles down in the visibility range of one-eighth of a mile. (App. 235).

He stated that a thunderstorm began at 4:40 P.M. and a heavy rain shower at 4:48 P.M. (App. 237). At 4:48

P.M. the highest wind of the day was recorded at 27 miles per hour. It was associated with the thunderstorm. (App. 238).

Plaintiff's Exhibit 37 in the Remarks column reported:

"Thunderstorm northwest, moving east, frequent lightning, cloud to ground. Thunderstorm began 40. Hail began 50. Ended 55." (App. 243).

Plaintiff's Exhibit 41, a chart made by Mr. Crow constituted his summary of what was going on at 46, 47 and 48 minutes past the hour of 4:00 P.M. The forward motion of the storm at 4:46 P.M. was estimated at about 30 miles per hour from west, northwest. (App. 247-248).

During the critical times for 4:46, 47, 48 and 49 in the heavy rain section, particularly the forward edge of the heavy rain, visibility was approximately one-eighth mile for a period up to two minutes near or on Runway 28. It took the storm approximately two minutes to move across Runway 28. (App. 251). The extremely low visibility of one-eighth mile continued for approximately two minutes. (App. 252).

Mr. Crow had experience with thunderstorms similar to this one on 20-40 occasions. (App. 268).

Mr. McDermott, a transportation consultant specializing in matters of aviation safety who had been with the Federal Aviation Administration, Civil Aeronautics Administration and had been a traffic controller and supervisor, gave expert testimony.

The air traffic controllers and weather bureau worked together as a team at Rochester and the controllers relied upon the Bureau for both the forecast and actual weather as it occurred. (App. 281)

Mr. McDermott was given the weather conditions, the clearance requested by the aircraft, the observation of the radar controller, the fact that the Weather Bureau

personnel were observing the thunderstorm on weather radar, the fact that the air traffic controllers were observing the approach of the thunderstorm from the west, the progress of the thunderstorm across the field, and the fact that visibility was recorded at less than one-eighth of a mile. On the basis of these facts, he testified that it would be the duty of the Weather Bureau personnel to observe the approach and development of the diminishing visibility, to report this to the control tower so that they would not suddenly be confronted with a drop in visibility from eight miles to what was later on reported as a one-half mile but what the Transmissometer had recorded as one-eighth.

He criticized the reporting and following of the storm by Government personnel. Further, he testified that the controller at the radarscope had a duty to alert the controllers in the tower cab as to the type of weather he was observing; that the controllers in the tower who were in a position to see the approach of the storm should have taken over the reporting of visibility once it decreased to less than four miles. Their observations and their information should have been made available to any aircraft on their radio frequency and they should have withheld takeoff clearance to any aircraft which was proposing departure at the time this visibility had dropped to less than a quarter of a mile. If they had already given a clearance, it would have been their duty to cancel it. (App. 284, 285).

The lower Court made no conclusion that the flight should have been aborted and specifically stated that the failure to abort the flight could not be relied upon by the United States to establish contributory negligence on the part of Mr. Neff. Captain Dennis had full command responsibility for the flight at all relevant stages and Mr. Neff was subject to his orders and command. A decision to abort would have been that of Captain Dennis. (App. 38).

SUMMARY OF ARGUMENT

The Appellant, United States of America, in its operation of the Rochester-Monroe Airport, its air traffic control tower, its weather bureau station and other facilities and in its control of airplanes using the airport, had a knowledge and an opportunity for knowledge, of weather conditions and other hazards to airplanes using the airport, superior to that of the flight crews of airplanes flying in and out of the airport. Said crews are highly dependent on and rely upon the air traffic control tower for weather guidance, a responsibility which the Government has accepted, undertaken and must fully carry out. The Government thus had a duty to provide the Mohawk plane with all significant relevant weather information. It negligently failed to furnish the plane with critical and important information which both its weather bureau and control tower had, concerning the approaching thunderstorm and a substantial decrease in visibility, and thus deprived the plane of information which would have, without doubt, brought a request from the flight crew for a cancellation of take-off clearance, previously granted by the tower.

There is, at all times, instantaneous communication between the Weather Bureau Station and Tower at the airport and between the tower and a plane using the facilities of the airport.

The testimony in this case discloses, without any possible basis of contradiction, that on the afternoon of the accident there was very little activity involving arriving or departing planes at the Rochester-Monroe Airport. This, as the record will show, undoubtedly contributed to the clear inattention of the air traffic controllers and of the weather bureau technician. Unfortunately, it played a large part in the crash of the Mohawk plane.

The Government's negligence consisted of its violation of a duty which it had assumed and undertaken and a violation of provisions of the Federal Aviation Agency

Air Traffic Control Procedures Manual, all of which caused the fatal air crash and resulted in the death of decedent.

It failed to advise Mohawk's flight crew that a thunderstorm was expected to hit the airfield at Mohawk's takeoff time as the Weather Bureau personnel well knew, and it failed to relay the special weather observation of 4:42 P.M., received in the Air Traffic Control Tower at 4:43 P.M., to the plane before takeoff. The personnel in both the Weather Bureau station and the Air Traffic Control Tower failed to keep an adequate lookout and to advise the plane of sharp diminishing visibility connected with the approach of the thunderstorm. The tower negligently failed to withhold or cancel the takeoff clearance and at least temporarily the flight itself, as it was required to do in accordance with the Air Traffic Control Procedures Manual and in the exercise of its required duty of due care. The negligence of Government personnel was a clear, proximate cause of the accident. Mohawk Airlines Flight 112, on the other hand, followed all instructions given it by the Air Traffic Control Tower from beginning to end.

Nor was decedent John Neff guilty of contributory negligence. It was not customary for flight crews to use radar for thunderstorm detection on the ground. A flight crew customarily depended on the control tower at departure time for pertinent and up-to-date weather information which the tower could give by virtue of its close connection with the Weather Station, its vantage point high over the field and its contact with the Instrument Flight Rules Room containing a radarscope.

A takeoff in heavy rain is not unusual for an airplane and decedent unlike the tower and weather personnel was not aware that the thunderstorm was on the field.

Decedent Neff was under the command responsibility of Captain Dennis whose decision it would have been to

abort the flight. The lower Court made no finding that the flight should have been aborted and there is no satisfactory basis for the Government's argument that decedent was negligent in failing to abort. Nor did decedent's lack of command time for flying from the left seat in a plane like the one involved contribute in any way to the accident because, as found by the lower Court, he exercised reasonable and ordinary care under the circumstances confronting him. The question of deciding if Mr. Neff was contributorily negligent was the function of the trial Judge and his Findings of Fact well document his substantial reasons for finding that Mr. Neff was free from contributory negligence.

The findings of fact as reflected in the Court's Opinion were based upon the great weight of substantial testimony.

Appellant's argument, not made in the lower Court, that the "misrepresentation" exception to the Federal Tort Claims Act, 28 U.S.C. 2680 (h) applies here, is completely invalid. There is no possible application to this case.

ARGUMENT

I. Government Personnel Had a Continuing Obligation To Furnish Mohawk Flight 112 With All Significant Weather Information

It is astonishing indeed for Appellant, United States of America, to contend that it had no general continuing obligation to furnish the Mohawk commercial airliner, "new, significant, and immediate relevant information that might have affected the crew's takeoff decision." To say that the Government had no duty to transmit critical and important weather information is simply incredible.

The Air Traffic Control Center of the Appellant divides the United States into twenty areas. It is responsible for the assignment of all altitudes and routes along the airways from terminal to terminal. Center controllers issue

clearances which are relayed to pilots by the tower controllers. Control towers are responsible for the movement of aircraft on the runways, from the terminal to the runways, on and off; for the regulation of the traffic that has been turned over to their control by the Center, and for turning aircraft over to the Center controllers. (App. 273).

A plane prior to takeoff must file a flight plan with a requested altitude and airway. The Traffic Control Center approves or gives a different altitude and the plane is required to follow that altitude and to stay within the airway during the course of its flight. (App. 278). After a flight plan has been filed and coordinated and a pilot is ready to leave, he contacts the ground controller by radio for taxi clearance to the assigned runway. He is instructed to follow certain taxiways to a runway and is given his clearance by the tower. (App. 276). While a pilot can disagree with the tower, it is not normal for him to do so because of the superior knowledge of what is going on at the airport and what the condition are. (App. 277) He is expected to follow instructions from the Control Center and Tower from the filing of the flight plan to termination of the flight at point of destination which may be many miles from his point of takeoff. (App. 277)

While, as the lower Court stated in this case, the airplane crew knows the condition of the aircraft, its capabilities, and must deal with the unusual and unexpected in flight:

“The tower, in this age of electronics, has the superior knowledge and capability where questions of traffic control and weather are involved. While crews have weather training and know that ‘the air is an unforgiving element’ those in the tower, who also have weather observation training and who are in instant contact with weather stations in the area, have available more instruments, more information and more weather knowledge. The crew is highly dependent on and relies on accurate and sophisticated weather

guidance from the tower, a responsibility which the Government has undertaken and must fully and completely carry out." (Emphasis supplied). (App. 27).

It is clear that the duty of those in Air Traffic Control is not restricted to manuals or written regulations for as *Hartz v. United States*, 387 F.2d 870 (5th Cir. 1968) stated:

"* * * We disapprove the view that the duty of an FAA controller is circumscribed within the narrow limits of an operations manual and nothing more. We approve the view expressed by the Court of Appeals for the Second Circuit in *Ingham v. Eastern Air Lines, Inc.*, 373 F.2d 227 (2nd Cir. 1967), as follows:

'While air travel in this jet age has become commonplace, we know too well that there is always lurking the possibility of tragic accidents capable of snuffing out the lives of hundreds in a mere matter of seconds. Much of the success in preventing such disasters can be attributed to the federal government's assumption of the supervision of commercial flying; and public confidence in air travel has been fostered in large measure by knowledge that our government, recognizing the high stakes involved, is constantly overseeing the carrier's operations in order to promote safety.

* * *

'It is now well established that when the government undertakes to perform services, which in the absence of specific legislation would not be required, it will, nevertheless, be liable if these activities are performed negligently.' "

And see *Indian Towing Company v. United States*, 350 U.S. 61, 69 (1955) where the Court stated:

"* * * it is hornbook tort law that one who undertakes to warn the public of danger and thereby induces reliance must perform his 'good Samaritan' task in a careful manner."

Appellant's contention that the Court in *Ingham v. Eastern Air Lines, Inc.*, 373 F.2d 227, (2nd Cir. 1967)

Certiorari denied, 389 U.S. 931, did not go outside the regulations to hold the United States liable is not correct for as the Court stated:

“Assuming, *arguendo*, that in the absence of FAA regulations approach controllers would not have to advise incoming aircraft of weather conditions, the decision to provide such information would lead carriers and their pilots normally to rely on the government’s performance of this service. The carriers, relying on the FAA to keep their pilots informed of current weather conditions, would be likely to reduce both the quantity and quality of their own weather reporting. In light of this reliance, it is essential that the government properly perform those services it has undertaken to provide albeit voluntarily and gratuitously.”

Still another statement by the Court in *Ingham*, *supra*, demonstrates the responsibility of our Government for the satisfactory performance of services it has undertaken to perform in connection with air travel. The Court on page 235 of the same opinion said:

“Our conclusion that the change in visibility should have been reported is in tune with the heavy degree of reliance which passengers place upon the government for insuring the safety of their flights. While air travel in this jet age has become commonplace, we know too well that there is always lurking the possibility of tragic accidents capable of snuffing out the lives of hundreds in a mere matter of seconds. Much of the success in preventing such disasters can be attributed to the federal government’s assumption of the supervision of commercial flying; and public confidence in air travel has been fostered in large measure by knowledge that our government, recognizing the high stakes involved, is constantly overseeing the carrier’s operations in order to promote safety.

“Moreover, we can give little weight to the government’s claim that since its initial decision to provide weather information was a gratuitous one, it could proceed with impunity to violate its own regulations

and act in a negligent manner. Dean Prosser has put this doctrine to rest in his treatise: '[T]he good Samaritan who tries to help may find himself mulcted in damages, while the priest and the Levite who pass by on the other side go on their cheerful way rejoicing.' Prosser, *Law of Torts* 333 (3rd Ed. 1964).

"It is now well established that when the government undertakes to perform services, which in the absence of specific legislation would not be required, it will, nevertheless, be liable if these activities are performed negligently. Thus, for example, though the government may be under no obligation in the absence of statute to render medical care to discharged veterans, when it decides to provide such services and does so negligently, it has been held liable under the Tort Claims Act. *United States v. Brown*, 348 U.S. 110, 75 S.Ct. 141, 99 L.Ed. 139 (1954)."

Appellee wishes to make clear that Government personnel likewise violated requirements of the F.A.A. Air Traffic Control Procedures Manual which will be covered in its next point and that said violations proximately caused the accident.

Nor do Appellees interpret *United States v. Furumizo*, 381 F.2d 965 (9th Cir. 1967) as supporting Appellant's argument. In affirming a recovery against the Government for negligence on the part of air controllers while the Court found that it was not required to pass on the question of the duty of controllers beyond the outlines of the Air Traffic Regulations and Procedural Manual the Court said this on page 968:

"* * * But we are unwilling to hold, as the government would have us do, that when the controllers did see the Piper start its takeoff, they had no duty to act. The danger was extreme, and they knew it. Nothing in the regulations or manual says that, under such circumstances, controllers shall not act. As the trial judge points out (paragraphs 61, 62, 63) the regulations and manual do not make mere automata of the controllers. Their job requires that they act in the

interest of safety, and it would be strange indeed if that overriding duty did not include an obligation to seek, by appropriate instructions, to warn a pilot who is starting to take off when it is apparent to them that he will encounter a severe hazard. The Government argues that because the manual provides that 'when controllers foresee the possibility that departing aircraft might encounter * * * thrust stream turbulence or wing tip vortices from preceding aircraft' they should issue 'cautionary information to this effect * * * to the pilots concerned,' the controllers are not required to do more. But we do not think this directive is fully complied with where, although a first warning has been given, it becomes clear to the controller that another warning is needed and none is given.

"But even where he has had no reason to believe, at the time of the act, that it would involve any unreasonable risk of physical harm to another, he is under a duty to exercise reasonable care when, because of a change of circumstances, or further knowledge of the situation which he has acquired, he realizes or should realize that he has created such a risk."

Nor is there any basis for Appellant's contention that Government personnel are without applicable guidelines to determine what is "new, significant and immediate relevant (weather) information". Even a layman would know that this would require new information concerning a thunderstorm, the wind and visibility to be transmitted to a plane preparing to take off as soon as it is received by the Weather Bureau and by the air traffic control center. It is clear from the testimony of the controllers and the Weather Bureau technician that they knew what information was to be given to planes and when traffic clearances were to be withheld. That this duty was recognized by the Government personnel is clearly borne out by the testimony of the Government's own witnesses in the Air Traffic Control Tower and Center and in the Weather station.

Air traffic ground controller DiStasio conceded that a controller must advise aircraft of high winds and a lowering of visibility when a thunderstorm was near or at an airport. He admitted, also, a requirement to pass on the critical weather report of 4:43 P.M., never transmitted, to Flight 112. This report was received on the Telautograph from the Weather Station and within the tower in a position where it was closely accessible to Controllers Howell, Thorp and DiStasio. It should have been brought to local controller Thorp's attention by Howell who, it is submitted, had ample time to do so but did not transmit it. Thorp gave the plane wind direction and velocity just prior to takeoff but no other information. Mr. Howell, the Enroute Controller, had the responsibility of determining whether a particular weather message was or was not of immediate consequence to a plane about to take off and to advise the local controller concerning weather information likely to have a direct bearing on traffic in order that this information might be passed on to a plane using the airport. (App. 399, 400) This then was a definite practice followed by the control tower. In the light of this testimony, there is no possible basis for Appellant's argument that it had no duty to advise Flight 112 of the 4:43 Telautograph message or when the storm might be expected to hit the field. Howell, instead of advising Thorp or DiStasio, proceeded to make a routine local weather forecast which could only be heard by people tuned to that frequency. Obviously, 112 would not be tuned to that frequency and would be relying on the tower for its weather information. (App. 204)

Appellant contends that the flight crew knew or should have known that there was a thunderstorm and that it was on the field prior to takeoff. This was something that apparently the men in the Air Traffic Control Tower did not notice high above the field, although obviously it was there for them to see.

Traffic was very light and there was ample opportunity for the tower to advise Flight 112 of all weather developments. The crew's vision was, at ground level, somewhat impeded by rain on the windshield of the plane at an angle that masked the speed of the "rain wall."

The crew preparing for takeoff had many immediate duties. The tower had responsibility to check weather and visibility. The men in the control tower, as the lower Court held, were not alert to the changing weather conditions and indeed made no conscious effort to look out and observe, relying on the weather station, which also was taking only occasional and casual observations. There was an obvious breakdown in communication between the weather station and the tower.

The lower court found that there was no definite demonstration that the crew was sufficiently alerted of a thunderstorm on the runway to warrant extra precautions such as the use of radar from the ground or calling the tower. After a consideration of all the evidence, the lower Court was not persuaded that Captain Dennis or First Officer Neff would have taken off into the wall of rain some 2,700 feet down the runway if they knew they were taking off directly into the heart of a thunderstorm then hitting the field. A takeoff in heavy rain is not the same as a takeoff into a thunderstorm. As the lower Court found, it was highly questionable that the flight crew was aware that the rainwall contained a thunderstorm or was aware of the speed of its approach, pointing out that engine noises of a piston plane could muffle the noise of a thunderstorm and that there were no thunderclaps but only rolling thunder sounds.

When the crew before takeoff asked permission to turn left "to avoid those thunderstorms coming in from the west," it was clear that they did not realize that the storm was on the field and the lower Court so found. On the other hand, if the tower had been performing its

duties properly in keeping a satisfactory lookout, controllers would have known and clearly observed that the violent storm was in fact on the field. There was still opportunity to warn and prevent the accident before Mohawk 112 started down the runway.

Appellant has no basis for stating (Appellant's Brief page 30) that the prevailing visibility just prior to takeoff was more than four miles as determined by the local controller. Appellant in making this statement was relying upon the testimony of controller Thorp whose testimony in this respect was contrary to the substantial testimony of other factual eye witnesses, the Transmissometer recording and the testimony of the meteorologist Crow who testified to visibility dropping from four miles to one-eighth of a mile. While runway visibility from the plane's cockpit was found by the District Court to be over a quarter of a mile, this was at 4:45 P.M., four minutes before takeoff.

The law of the State of New York where the accident occurred, as cited by Appellant, is identical with the law in the District of Columbia. A common sense duty, apart from anything else, existed on the part of Government personnel to inform Mohawk 112 of the time the thunderstorm would reach the airport, of the special weather observation of 4:42 which would have affected the decision of the Captain of the plane to take off, of the tremendous reduction of prevailing visibility, and finally the tower should have canceled the clearance for takeoff.

II. Government Personnel Had a Clear Duty To Furnish Mohawk 112 With Visibility Information and To Deny or Cancel Clearance To Take Off

Specifically Appellant argues it had no duty to advise Mohawk Flight 112 that the thunderstorm was expected to hit the field prior to takeoff time or to advise it of the 4:42 P.M. severe weather forecast which reached the tower at 4:43 P.M. well before takeoff. Common sense, it is

submitted, would require that this be done apart from whether a regulation existed or not and the testimony of the controllers as aforestated clearly indicates their recognition of an existing duty to furnish information of this sort to departing airplanes.

The Weather Bureau and the air traffic controllers worked as a team at Rochester. There was instantaneous communication between them and the traffic control operators relied upon the Weather Bureau to provide them with not only the forecast but the actual weather as it occurred so that the tower, in turn, could pass important weather information on to the airplanes it was controlling, and with whom it in turn had instantaneous communication.

Of course, the Air Traffic Procedures Manual does not apply to Weather Bureau personnel. It is not claimed by Appellee that it does. But Mr. Chapman in the Weather Bureau passed on the 4:43 Telautograph message concerning the thunderstorm to the tower, Mr. Howell got the report and neither he nor Mr. DiStasio or Mr. Thorp either passed on the weather information to Flight 112, canceled the clearance, or postponed the flight as they were required to do under Section 431.7 which required a denial of takeoff clearance where runway visibility was less than one-quarter of a mile. (Appellant's Appendix to Brief page 69). And there can be no question that visibility during the critical times of 4:46—4:49 P.M. as Mr. Crow, the meteorologist, testified, was down to one-eighth of a mile, when the thunderstorm swept across the field. For two minutes of that time visibility was that low near or on Runway 28.

And the controllers have not interpreted their responsibilities under Sections 352.1 and 471.1 and 471.5 of the same manual as purely discretionary as has been pointed out heretofore.

While it is true that Chapman did not testify as to the precise time the storm would hit the field, his observations

and calculations indicated to him that the storm could hit the field by 4:47 P.M. because it was only 4-5 miles away at 4:40 P.M. (App. 413). And the Transmissometer reading available in the Weather Bureau at 4:48 reflected, according to this witness, a visibility of one-eighth of a mile for two minutes. At no time, however, did this man ever tell the Tower that he expected the storm to hit the field, (App. 412-413) although he knew important weather information was desired by the Tower in determining traffic clearances to be given to planes flying in and out of the airport, and he admitted it was his duty to track the storm visually. (App. 414).

The lower Court's finding that the Appellant was negligent in failing to advise the crew "that the storm was expected to hit the field at takeoff time, as the weather personnel well knew" had reference, of course, to the team effort at the airport between the Weather Bureau and the Tower. Chapman had sent the 4:43 P.M. message; Howell, the En Route Controller, had received it and without calling it to the attention of DiStasio and Thorp, proceeded to make a regular weather radio broadcast on a frequency to which Flight 112 would not be listening. All controllers had a duty and obligation to observe and know the weather at the airport and to keep airplanes posted with significant weather information. As a matter of fact, once visibility goes below four miles, as it did in and around the time of the accident, the local controller takes over from the Weather Bureau the obligation of observing visibility. (App. 116, 284-285).

Mr. Thorp, the local controller, had seen radar echoes reflecting the severe approaching storm. He had seen lightning before giving Flight 112 initial takeoff clearance. If he had known of the 4:43 P.M. weather observation he would have relayed it to the plane.

Mr. Sufrin, the departure controller located in the IFR Room two stories below the control tower, whose duties

were to separate known IFR traffic, was in direct contact with the Tower. Commencing at 4:00 P.M. he saw on his radarscope an intense storm cell approaching the field. As Appellant admits (Appellant's Brief 34), "the departure controller (Sufrin) had direct communication with the local controller (Thorp), and presumably, could have advised the local controller of approximately when the storm might hit the field." He not only failed to bring this information to the attention of the tower but approved the revised takeoff clearance without conveying his radar observations to the local controller, although he knew the thunderstorm had struck the field.

None of the men in the Tower apparently paid any attention to the approaching storm or changing weather conditions unfolding before their eyes. The storm's progress, identified by the forward wall of rain, was outlined by meteorologist Crow based upon the reported data. It was also testified to by factual witnesses. The tower controllers saw or should have seen the storm on the field and their failure to notify Flight 112 of the storm after it left the ramp constituted clear negligence.

While it is true DiStasio first testified that he had no duty to convey the 4:43 P.M. message to the pilot (App. 127-128), Appellant apparently overlooks the fact that later in his testimony he was shown his previous testimony where he was asked if regulations or rules required him to pass on this message to the flight and he admitted that they did. (App. 131-132).

Each of the Court's findings of negligence (App. 34-35) is amply supported by the testimony of Appellant's controllers themselves concerning their obligations and observations. And Appellee's expert, the former traffic controller McDermott, clearly defined their duties in a way which left little doubt that Mr. Sufrin on the radarscope was negligent, and that the controllers in the Tower should have taken over the reporting of visibility, once it decreased

to less than four miles and that their observations should have been made available to Flight 112.

Appellant's statement in its Brief, page 38, that tower personnel were "absolutely under no obligation to take a visibility observation or transmit it to the plane" amounts to an attempted contradiction of the testimony of its own witnesses and regulations. 471.1 of the F.A.A. Facility Operations Manual requires visibility observation from the control tower when the visibility at the usual point of observation is less than four miles. Exhibit 29 shows that at 4:48 P.M. there was an abrupt drop in the scale of the Transmissometer chart from well above four miles down to the visibility range of one-eighth of a mile (App. 235). WBAN Form 10-A (App. 473-474) indicates that a thunderstorm began at 4:40 P.M. with a heavy rain shower at 4:48 to 4:50 P.M. (App. 237). It took the storm two minutes to move across Runway 28 and one-eighth mile visibility continued for approximately the same period. Apart from this testimony, it is clear that other substantial testimony demonstrated visibility of less than four miles. It is clear then that the tower violated 471.1 and 471.5 of the Manual as well as Sec. 2621 of the Manual of Surface Observations (Appellant's Appendix to Brief, 69, 70) in failing to take necessary visibility observations and to transmit them to the plane. Clearly, also, tower personnel violated the airport minima at Rochester requirement in failing to advise Flight 112 of prevailing visibility below one mile. (App. 308, 459).

While the lower Court found that runway visibility was over one-quarter mile from the plane's cockpit this was at 4:45 P.M. over four minutes prior to the time Flight 112 was cleared for takeoff. (App. 25). At 4:48 P.M. when the abrupt drop in visibility was recorded to one-eighth of a mile, the plane had not received the revised clearance and it was not cleared for takeoff until 4:49:26 P.M. 431.7 of the Manual (App. 69) required that "Take-off clearance

shall be denied to the pilot of an air carrier or commercial aircraft * * * whenever: * * * runway visibility for the departure runway is less than one quarter of a mile."

Visibility, therefore, remained below takeoff limits during the critical period and the Tower should have either denied takeoff clearance or, in the exercise of proper care, canceled the clearance before Flight 112 started down the runway.

While the Tower was not told by Chapman of the Transmissometer recording, it was negligent for him not to note the record or to advise the Tower of the recording with his instantaneous communication just as it was negligence for the Tower not to have acted on the 4:43 Telautograph which, with their position high above the field, would have required them to bring the sharp visibility change to the attention of the plane, and to cancel the flight in accordance with the controlling regulations.

The testimony showed and the lower Court found that "there was no definite demonstration that the crew was sufficiently alerted to the imminence of a thunderstorm on the runway," in not using its radar and in not calling the tower. The first message from Flight 112 to the tower was 4:48:25. Thereafter, there were eleven transmissions between the tower and this plane, (App. 475) and not once did the tower mention visibility or the storm. When the plane asked for permission to turn left "to avoid those thunderstorms coming in from the west" it was clear it did not realize the storm was on the field. This request, too, should have brought the controllers to complete attention of the critical situation. This was not a question of judgment of the pilot as to whether the flight should take off but of a failure on the part of the Tower to give important weather information and to deny or cancel clearance for takeoff.

III. The Negligence of the Controllers Was a Proximate Cause of the Accident

Appellant's references to the New York cases constitute a discussion of horn book law with which Appellee has no quarrel. Of course she must establish that the Government's negligence was a proximate cause of her husband's death and she has done that by the overwhelming weight of the testimony.

The 4:43 P.M. special weather observation was only one single item in a chain of circumstances proximately culminating in the crash. If utilized as it should have been by the tower controllers, it would have alerted them to a rapidly deteriorating situation which should have resulted in their withholding or canceling takeoff clearance.

While the flight crew was undoubtedly aware, as the lower Court found, that the rain was moving down the runway, the plane sitting twelve feet above the runway did not have the view or knowledge of the tower to judge its movement or even its intensity. One must remember that Flight 112 realized that American Airlines had just taken off four minutes before from the same runway and, further, believed that all current, relevant weather information had been given them by the Tower. A takeoff in heavy rain is not unusual and the lower Court properly concluded that the crew, "or at least First Officer Neff, unlike Government Weather and tower personnel, was not aware that the thunderstorm was on the field."

The tower controllers had very little to do during the critical times. Other than Mohawk 186 landing, they had under control only American which took off at 4:45 P.M. and Flight 112. There was ample opportunity to advise Flight 112 of all weather developments. If the tower controllers failed to see the storm on the field, they were negligent. If they saw it and failed to notify Flight 112 after it left the ramp, they were negligent. Their inattention and

negligence during the time Flight 112 was under their control is clear and convincing.

And yet, as the storm engulfed the field and visibility went below minimum limits for takeoff, they failed to warn the plane and failed either to withhold clearance for take-off or to cancel the clearance previously given. This then was the proximate cause of the accident.

The lower Court agreed and in finding negligence of both the weather and tower personnel stated:

"Each of these lapses alone is sufficient to establish negligence since in each case the information would have had a significant impact on whether the crew would or should take off. These lapses individually and collectively were a proximate and direct cause of the accident."

IV. The Court Below Was Correct in Its Finding That John W. Neff Was Not Contributorily Negligent

Weight to be Given to Findings of Trial Court

After a thorough and documented examination of the record, the Court below found that:

"First Officer Neff was not contributorily negligent in fact or in law." (App. 39)

The evidence, appellee respectfully submits, more than adequately supports this conclusion.

The finding of the presence, or absence, of contributory negligence is a function of the trier of facts just as much as is finding the presence or absence of negligence on the part of a defendant.

"The respective functions of court and jury in determining the plaintiff's negligence and the existence of the causal relation between it and the harm necessary to bar recovery are the same as in determining the negligence of an actor's conduct toward

another and the causal relation necessary to make him liable for a harm which such other has sustained." Restatement of Torts, 2d § 476.

The Courts of New York have followed this universal rule, holding that the "question as to contributory negligence is one for the trier of facts", *Kross v. Kelsey Hayes Company*, 287 N.Y.S. 2d 926, 29 A.D. 2d 901 (1968).

"The issue of contributory negligence is peculiarly within the province of the trier of the facts. (*Tyrell v. State of New York*, 6 A.D. 2d 958, 176 N.Y.S. 2d 530; *Bruce v. State of New York*, 3 A.D. 2d 793, 794, 160 N.Y.S. 2d 404, 406; *Collins v. City of New York*, 263 App. Div. 893, 32 N.Y.S. 2d 614; *Mieuli v. New York and Queens County R. Co.*, 136 App. Div. 373, 120 N.Y.S. 1078; *Holpp v. Carafa*, 8 A.D. 2d 617, 185 N.Y.S. 63)." *Kenton v. State*, 285 N.Y.S. 2d 758, 29 A.D. 2d 64 (1967).

The New York Courts have gone further and held that "contributory negligence as a matter of law is usually established only upon unusual or exceptional factual situations." *Greenlish v. New York Central Railroad Company*, 286 N.Y.S. 2d 61, 29 A.D. 2d 159 (1968).

It is the rule in this country that the trial court's determination on the question of contributory negligence will not be reversed on appeal except in the most unusual of circumstances.

"The Court as the trier of facts has determined that the claimant has not met this burden [i.e., burden of proof on contributory negligence]. Certain it is, that, when there is a decision for the defendant by the trier of facts in an action of this sort, *the court is not justified in setting it aside as against the weight of evidence unless it can be plainly seen that the preponderance in favor of the plaintiff is so great that the trier of facts could not have reached the conclusion upon any fair interpretation of the evidence.*" *Tyrell v. State of New York*, 176 N.Y.S. 2d 530, 532, 6 A.D. 2d 958 (1958) (emphasis supplied); see also to

the same effect *Wells v. St. Louis*, 126 N.Y.S. 2d 413, 415, 282 App. Div. 1105 (1953); *Mason v. Lory Dress Co.*, 102 N.Y.S. 2d 285, 288, 277 App. Div. 660 (1951).

Appellant contends that the decedent Neff was guilty of contributory negligence in four ways, namely:

(1) taking off into a known thunderstorm; (2) failing to use the weather radar in the plane to determine the intensity, location and movement of the storm, or failing to request additional weather information from the tower; (3) sitting in the left seat and piloting the plane when he did not qualify under company regulations; and (4) failing to abort the flight. We shall examine each of these four contentions to see if "the trier of facts could not have reached [his] conclusion upon any fair interpretation of the evidence."

(1) Taking Off Into a Known Thunderstorm

The issue, of course, is not whether First Officer Neff was negligent because he knowingly took off into a thunderstorm. On the contrary, the Court below made a finding that, on the basis of "the proof as a whole that neither Captain Dennis nor First Officer Neff would have taken off into the wall of rain some 2,700 feet down the runway if they knew they were taking off directly into the heart of a thunderstorm then hitting the field." (App. 37) The finding of the Court below, therefore, is that Mr. Neff did not know that Flight 112 was about to take off into a thunderstorm. Mr. Chapman of the Weather Bureau knew. Government personnel in the tower were disregarding a bell and teletype message which would have told them. But, as the Court found, Mr. Neff did not know. This finding of the trial court cannot be set aside, as we have seen, "unless the trier of facts could not have reached [this] conclusion upon any fair interpretation of the evidence." *Tyrell v. State of New York*, *supra*; Rule 52 (a), Federal Rules of Civil Procedure.

The record establishes that it is not unusual for planes to take off in rainstorms. Captain Meek, a Delta captain

with 30 years experience, so testified (App. 200). So did Captain Brown (App. 214). It should be remembered, too, that Mohawk Flight 112 was not the only plane to take off in the rain at Rochester that day. While Mohawk Flight 112 was taxiing to runway 28, in the rain, at 4:45 P.M., an American Airlines flight was taking off on that same runway 28 (App. 125, 126, 140). It is apparent that what the crews of both the American and Mohawk flights could see from their vantage point would not cause them to delay their takeoffs. In fact, as the Court below found (App. 37), the crew of flight 112 obviously believed the thunderstorm was not on the field where the rain was falling, but was still "coming in from the west," far enough away to be avoided by a left turn following takeoff. (App. 164).

As Captain Meek testified, "visibility is not of the best and to view a storm head-on, you don't have much relative motion from the storm . . ." (App. 187). Mohawk Airlines Captain James J. Brown, who had flown from Rochester frequently, testified that, "I would say that, if you are on Runway 28 and the storm were approaching from the west, that you would have a little difficulty ascertaining the speed of the storm unless you had been sitting in the position for quite a while so far as observing the speed." (App. 207, 208.) The crew of Flight 112 had neither the information nor the vantage point that was available to Government personnel at the field. In this connection it is interesting to note that Weather Bureau employee Chapman testified that, from *visual* examination at ground level it was "hard" to say how far away from the field the storm was at 4:40 "because it was completely overcast and all I could see was the base of the clouds. I couldn't see the vertical outline of the storm." (App. 413). Neither could the crew. Government personnel, but not the crew, knew from other sources where the storm was, however.

The record fully supports the conclusion that First Officer Neff did not take off into a "known thunderstorm."

The thunderstorm was certainly known, but not to Mr. Neff. It was known only to government personnel.* The tragedy is the failure of defendant to communicate its knowledge to the crew.

As the court below pointed out (App. 39), there is a well-established presumption that airline pilots act with diligence and due care when their lives are at stake. *Eastern Airlines v. Union Trust Co.*, 95 U.S. App. D.C. 189, 199, 221 F. 2d 62, 72 (D.C. Cir. 1955). And see *Eastern Air Lines v. United States*, 110 F. Supp. 491, 497 (D. Del. 1952) affirmed at 207 F. 2d 560 (3rd Cir. 1953) in which, on a contributory negligence allegation, the Court gave weight to the fact that the pilot "knew he had 21 passengers, 3 of whom were children; and I am convinced he was vigilant for their safety." That presumption was strengthened, not overcome, by the record in this case.

(2) The Alleged Negligence in Not Using On-board Radar or Requesting Additional Weather Information From the Tower

The question of the use of on-board radar is discussed extensively in the opinion of the Court below. (App. 35, 36). The record is clear that the Court was correct in finding that "the essential purpose of this radar was to observe thunderstorms while the plane was in flight." (App. 35) Because of ground clutter, radiation dangers and other factors, standard practice does not include having the radar scan while the aircraft is on the ground (App. 209).

The judgment of whether to take off at once, as the American flight did, and avoid thunderstorms believed to be still west of the field, or to stay at the end of the runway and employ the unusual device of using the plane's radar while on the ground, was for Captain Dennis to make in any event. He was in contact with the tower, he had the better view from the right seat, and most important, he

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was the only one of the crew with the authority to make the decision. This question of the authority of captain and first officer is discussed at more length below.

As the Court below concluded after listening to all the evidence, there was "no definite demonstration that the crew was sufficiently alerted to the imminence of a thunderstorm on the runway to warrant these extra precautions." (App. 36).

As a second point under its heading III B the appellant contends that First Officer Neff was negligent in not contacting the tower for more weather information. This contention ignores the fact that Captain Dennis was in communication with the tower and had even indicated to the tower that he believed the thunderstorm was still west of the field (App. 25, 164). (It was stipulated at trial that Captain Dennis, not Mr. Neff, was in communication with the tower (App. 402, 403)). Government personnel, some of whom knew to the contrary and others of whom should have known to the contrary, did not advise Captain Dennis that the storm was no longer west of the field but was on the field.

It is completely unreasonable to contend that First Officer Neff should have spoken with the tower at the same time his captain was in communication with the tower. He had other things to do, and he had every right to rely on the communications in progress between tower and captain. The Court below so found, and certainly there is no preponderance of the evidence in favor of the Government on this point, let alone a "preponderance . . . so great that the trier of facts could not have reached that conclusion upon any fair interpretation of the evidence." *Tyrell v. State of New York*, supra.

(3) The Fact That First Officer Neff Was in the Left Seat

Appellant's heading III C, "The Piloting of the Plane By First Officer Neff Without Sufficient Qualifications" is inaccurate and misleading. Mr. Neff was fully qualified to pilot airplanes, including takeoffs and landings. The Government did not contend otherwise. There is not a scintilla of evidence to support the statement in appellant's brief (page 54) that First Officer Neff had the controls contrary to company regulations. It is true that Mr. Neff was not authorized by Mohawk to sit in the left seat. The plane was equipped with dual controls, however, and could be piloted from either seat.

Robert G. Harrar, the Mohawk official whose testimony is cited by the Government on this point, was asked the following question and responded as indicated (App. 296, 297).

"Question: Who had the responsibility for determining whether or not First Officer John Neff, on July 2, 1963, would be permitted to occupy the left seat of a Martin 404?"

"Answer: The captain, ultimately."

* * *

"Question: You mentioned in your answer it was subject to the captain's discretion, is that right?"

"Answer: That's correct."

The record is perfectly clear, of course, that authority remains with the captain irrespective of who occupies the left seat (App. 193).

The fact that Mr. Neff was in the left seat and also the fact that he was at the controls during the takeoff were not shown to have contributed to the accident in any way. Proximate cause is as necessary with respect to contributory negligence as it is to negligence. *Montellier v. United States*, 202 F. Supp. 384 (E.D. N.Y. 1962) affirmed at 315 F. 2d, 180, (2d Cir. 1962) cited at page 54 of the Government's brief, does not hold that when a co-pilot sits in the

left seat contrary to company regulations it is contributory negligence as a matter of law.* This decision does state the general rules, however, that:

“Both assumption of risk and contributory negligence present questions of fact to be resolved by the trier of fact,” and

“Generally the state of decedent’s knowledge is a question for the trier of fact.”

The trier of fact in this case determined that the fact that Mr. Neff was in the left seat was not a proximate cause of the crash. (App. 38). Neither at trial nor in its brief has the Government even presented a theory as to how Mr. Neff’s presence in the left seat was a cause of the crash. Appellee respectfully submits that there is no merit to appellant’s “left seat” argument.

(4) The Failure To Abort the Flight

Whether or not Mohawk Flight 112 should have aborted the takeoff is peculiarly a question of fact. It was a decision which had to be made in a matter of a few seconds. Captain Meek testified:

“You cannot run a cockpit on an airplane by committee action. There is one man running the airplane; there is one man responsible; there is one man with the authority. This lies with the captain.” (App. 201).

As Mohawk Flight 112 started down runway 28 there certainly was no time for “committee action.” Whose decision was it then? Who was to decide whether to abort or not? Captain Meek has already supplied the answer—

* In that case, an Air Force officer *who was not a regular member of the crew* flew as pilot. The District Court held that to constitute negligence. In affirming the decision below on other grounds the Court of Appeals specifically stated it was not ruling on the validity of the holding below in connection with the visiting general acting as pilot, 315 F. 2d 180, 181 (2d Cir. 1962).

the captain. Captain Meek has also given a possible reason why Captain Dennis did not abort. He and his first officer thought they were flying into rain, a normal procedure, not into a thunderstorm. Weatherman Williams was tracking the storm on radar. Williams told fellow weatherman Chapman how fast the storm was moving as it approached the field (App. 413). But no one told Flight 112 that it was the swirling winds of a thunderstorm they would be flying into and not just rain. By the time the plane was airborne and caught in the winds it was too late to abort.

The Captain's Authority

Running through all four points which the Government raises is the failure to accept the role of the captain of an airliner and the authority which rests with that captain. The Government cites *Marco Polo di Suvero v. Gem Window Cleaning Co., Inc.*, 17 N.Y. 2d 831, 218 N.E. 2d 317 for the general proposition that a person may not avoid the consequences of being contributorily negligent merely because he is obeying the order of another. An airline captain, however, is not merely "another."

"The pilot in command of the aircraft shall be directly responsible for its operation and shall have final authority as to the operation of the aircraft." Civil Air Regulation 60.2 (set forth in the pre-trial statement of plaintiff and read into the transcript at page 14).

The written page cannot accurately recreate the effect of Captain Meek's testimony on this point. This veteran of three decades of flying, by manner as well as words, left no doubt as to who makes the decisions in an airliner's cockpit. The following testimony is from the cross-examination of Captain Meek:

"Q. And if you were co-pilot flying an airplane and the weather was below minimums or you felt it was unsafe and the captain ordered you to take off, would you do it?

"A. I am not a co-pilot but if he were mine, he had better.

"Q. I beg your pardon.

"A. If he is my co-pilot, he had better.

"Q. You have been a co-pilot?

"A. Yes. The captain is in complete charge of the airplane and I think this should be very clear." (App. 200).

and a little later:

"One man can only make a decision and we don't vote on it.

"The problem is that the captain is the most experienced man in the cockpit and he is the man certified to take the action. The co-pilot's job is to assist the captain and he is in an advisory capacity.

"Now, certainly there is a grey area here that if we are going to fly the airplane into a mountain, this is a completely different situation than some discussion as to whether weather minimums exist or not." (App. 201)

As for the question of who is sitting in what seat, "The captain is in command of the aircraft at all times regardless of which seat he is in." (App. 193).

Captain Brown of Mohawk Airlines gave testimony to like effect.

"Q. Is it the First Officer or the Captain under company regulations who had final authority with respect to whether to take off or not to take off?

"A. The Captain.

"The Court: And that is true, is it, even if the co-pilot is at the controls and who is the man who is actually going to take the aircraft off.

"The Witness: That is true. That is definitely true." (App. 211).

Captain Loudin, a former Mohawk pilot who was a Government witness, testified as to the training Mohawk gave

its pilots concerning the authority of the captain of an aircraft.

"Well, the captain was the pilot in command and the other crew members were to follow his instructions and all his orders, legal and lawful orders, were to be obeyed." (App. 441)

The Court below found that, given Mr. Neff's crew responsibilities and the information available to him, "The situation as he then saw it did not warrant his taking the extreme step of disobeying Captain Dennis' orders at take-off." (App. 38) This conclusion is not only a permissible inference, but, based on the record in this case, it is the only legitimate inference.

"First Officer Neff was not contributorily negligent in fact or in law." (App. 39).

V. The Misrepresentation Exception (28 USC 2680 (h))

In this case the Court charged the Government with not only failure to transmit information, but with a failure on the part of the tower to cancel the flight in accordance with controlling regulations, affirmative acts of negligence on the part of the tower in its operation and in its control over Flight 112. The acts of negligence of the Government were not mere verbal misrepresentations, they were acts of omission and commission.

28 USC 2680(h) excludes certain named torts from the Federal Tort Claims Act. These excluded torts are assault, battery, false imprisonment, false arrest, malicious prosecution, abuse of process, libel, slander, misrepresentation, deceit and interference with contract rights. The Appellate Section of the Department of Justice takes the position on this appeal that it took in the similar Ingham case, *supra*, that the 28 USC 2680 (h) exclusion is applicable. Surprisingly, this question is raised for the first time on this appeal and was never raised in the trial Court. This Court should treat this issue as one of defense rather than

an impairment of its power to adjudicate. As the Court in *Stewart v. United States*, 199 F.2d 517 (7th Cir., 1952) said on page 519:

"In our view, Sec. 1346(b) conferred general jurisdiction of the subject matter of claims coming within its purview, and the exceptions referred to are available to the government as a defense only when aptly pleaded and proven. If this view be correct, we discern no reason why the government the same as any other party-defendant should not be held to have waived the defense."

And see *Neher v. U.S.*, 265 F.Supp. 210 (1967).

The legislative history of Section 2680(h) is scant, but there is some.

Judge Alexander Holtzoff (then representing the Department of Justice) testifying before a subcommittee of the Committee on the Judiciary, United States Senate, 86th Cong. 3rd Sess., on S 2690, p. 39, said:

"Clause 9 proposes to exclude from the cognizance of the law claims arising out of assault, battery, false imprisonment, false arrest, and so forth, a type of tort which would be difficult to make a defense against, and which are easily exaggerated. For that reason it seemed to those who framed this bill that it would be safe to exclude those types of torts, and those should be settled on the basis of private acts. It includes assault, battery, false imprisonment, malicious prosecution, abuse of process, libel, slander, misrepresentation, deceit, or interference with contract rights."

Referring to the bill which was ultimately enacted, the Senate Committee stated in its report:

"This section [28 USC § 2680] specifies types of claims which would not be covered by this title. They include * * * *deliberate torts* such as assault and battery and others. * * *" S. Rep. No. 1400. 79th Cong. 2d Sess., p. 33 (1946). (Emphasis supplied).

On the face of it, and in the light of what legislative history we do have, it would seem fairly obvious that the negligent operation of weather bureau and FAA operations at Rochester Airport which caused an airplane crash would not be one of the "deliberate torts" which the Senate Report indicated were to be exceptions to the Federal Tort Claims Act. But, the government now maintains, *United States v. Neustadt*, 366 U.S. 696, 81 S.Ct. 1294, 6 L.Ed. 2d 614 (1961), and some lower court opinions written prior to *Neustadt*, bring the instant case within the exception. This was also the government's contention in the only case directly in point, *Ingham v. Eastern Air Lines, Inc.*, supra. In that case, discussed above at length and relied upon by the Court below in connection with other issues, the Court held that "the government's reading of the misrepresentation exception" was "much too broad." The Court said:

"The Indian Towing case, on the other hand, [as opposed to *United States v. Neustadt*, 366 U.S. 696] bears close resemblance to the present controversy. The Coast Guard's negligent failure to maintain the beacon lamp in the lighthouse is closely akin to the controller's failure to provide up-to-date weather conditions. Both cases thus involved a negligent failure on the part of government employees to perform a duty they had undertaken to provide information and warnings to travelers of the waterways in one case, and airways in the other. And in both cases, the breach of this duty resulted in injuries and deaths. Where the gravamen of the complaint is the negligent performance of operational tasks, rather than misrepresentation, the government may not rely upon § 2680(h) to absolve itself of liability. See *Eastern Air Lines v. Union Trust Co.*, 95 US App. DC 189, 221 F.2d 62, aff'd sub nom., *United States v. Union Trust Co.*, 350 U.S. 907, 76 S. Ct. 192, 100 L.Ed. 796 (1955); *United Air Lines Inc. v. Wiener* (*United States v. Wiener*), 335 F.2d 379, 398 (9th Cir.) cert. dismissed, 379 U.S. 951, 85 S. Ct. 452, 13 L. Ed. 2d 549 (1964)."

Neustadt involved an inaccurate appraisal made by an employee of the FHA in a real estate matter. The Supreme

Court did hold that the appraisal constituted a misrepresentation which came within the exception. The Court was careful to point out, however, that:

"Our conclusion neither conflicts with nor impairs the authority of *Indian Towing Co. v. United States*, 350 U.S. 61, which held cognizable a Torts Act claim for property damages suffered when a vessel ran aground as a result of the Coast Guard's allegedly negligent failure to maintain the beacon lamp in a light-house. Such a claim does not 'arise out of * * * misrepresentation,' any more than does one based upon a motor vehicle operator's negligence in giving a misleading turn signal. As Dean Prosser has observed, many familiar forms of negligent conduct may be said to involve an element of 'misrepresentation,' in the generic sense of that word, but '[S]o far as misrepresentation has been treated as giving rise in and of itself to a distinct cause of action in tort, it has been identified with the common law action of deceit,' and has been confined 'very largely to the invasion of interests of a financial or commercial character, in the course of business dealings.' Prosser, *Torts*, § 85, 'Remedies for Misrepresentation,' at 702-703 (1941 ed.). See also 2 Harper and James, *Torts*, § 29.13, at 1655 (1956)."

Older cases heavily relied upon by the Government, such as *National Mfg. Co. v. United States*, 210 F.2d 263 (8th Cir. 1954) were also pressed on the Second Circuit in *Ingham*. That Court of Appeals rejected this reasoning, saying, 373 F.2d at 239:

"But the heavy reliance of the government on [*National Mfg. Co. v. U.S.*] is misplaced in view of the Supreme Court's subsequent opinion in *United States v. Neustadt*, *supra*."

The Second Circuit pointed out that in *Neustadt* the Supreme Court specifically reaffirmed its holding in *Indian Towing*.

Commentators discussing the 2680(h) exceptions have favored the position taken in *Ingham*, *supra*, even before

that case was decided. The following excerpt from Jayson's* "Handling Federal Tort Claims" § 260.05 [3] [B] (Matthew Bender, publisher) is set forth at some length because appellee believes it is so pertinent to the exclusion issue in the present case.

"When navigation aids maintained by the Government are faulty and mislead mariners who rely upon them to their damage, the misrepresentation exclusion of the Tort Claims Act should provide no defense to the Government. In the *Indian Towing Co.* case [350 U.S. 61, 76 S. Ct. 122, 100 L. ed. 48 (1955)] the claimant's tug with a barge in tow went aground when the Coast Guard was negligent in the operation of a lighthouse, failing to keep the light in working order. The vessel and its cargo were damaged. In the Tort Claims Act suit which followed, the principal issue before the Supreme Court was whether the Government may be held liable under the Act for negligence in connection with so-called uniquely governmental functions. *The Government's brief, however, also made an argument that the claim fell within the misrepresentation exclusion of Section 2680(h).* The Court's opinion ignored the misrepresentation point and held that the Government could be held liable in the circumstances of this case.

"Later, in the *Neustadt* case [366 U.S. 696, 81 S. Ct. 1294, 6 L. ed. 2d 614 (1961)], where the Supreme Court applied the misrepresentation exclusion to a claim based upon a negligently prepared FHA appraisal of a home, relied on by a purchaser to his damage, the Court distinguished *Indian Towing Co.* with the observation that the claim in that 'does not "arise out of * * * misrepresentation," any more than does one based upon a motor vehicle operator's negligence in giving a misleading turn signal.'

"Cases which point in the opposite direction would seem to be clearly unsound." (Emphasis supplied).

* Lester H. Jayson is Director, Legislative Reference Service, Library of Congress, and is a former Chief, Torts Section, Department of Justice.

Yale professors Harper and James in their standard, "The Law of Torts" (1956 ed.) § 29.13, say:

"It is to be hoped that the courts will not invoke the exception where the gist of an ordinary accident case is negligence in misrepresenting by sign, or signal, or word of mouth, a condition of danger or a vehicle driver's intention, for example."

The authors add by way of footnote [p. 1655, f.n. 31] that the authorities "could be perverted to furnish support for such an argument," i.e. an argument such as the Government makes in this case.

In *Brown v. United States*, 193 F.Supp. 692 (N.D. Fla. 1961), the sales contract between claimant's employer and the United States stated that the bomb casings being sold had been deactivated and were safe for scrap metal purposes. The complaint, based on the negligence of the Government in failing to deactivate the explosive material from the casing, which exploded, *and in failing to warn of the dangerous condition*, was met by a Government motion to dismiss on the ground the cause was based upon misrepresentation. The Court denied the motion, stating [at 693]:

"* * * no amount of characterization by the United States, that the action is based upon a misrepresentation, can alter the fact that the case here is based upon negligence for which the plaintiff may bring action under the Federal Tort Claims Act."

So, too, in the present case. The function of the FAA facility at Rochester was to assist, and to a large degree control, aircraft using the airport, *Hartz*, *supra*. Government personnel at the airport had information which would have been very important to the crew. The testimony of Captain Meek is clear on this point, and is contradicted. Government personnel at the airport knew, or should have known, that Mohawk Flight 112 was in danger.

They had both the means to remove the danger and the time and facilities to convey the information to the crew. As the Supreme Court pointed out in *Neustadt*, many torts have an element of misrepresentation in them, and these are not excluded. The inescapable fact remains that it was the negligent operation of Government facilities which caused the crash of Mohawk Flight 112. It is respectfully submitted that this is not a "misrepresentation" within the meaning of the statute.

Appellant has conceded (Appellant's Brief page 62) that negligence on the part of the air traffic controllers in maintaining traffic separation would not fall within the exception. It is apparent that when the Government has chosen to raise the provisions of 28 USC 2680 in various lawsuits brought against it for negligence on the part of air traffic controllers, it has relied upon 2680(a) and only in *Ingham*, supra, has it asserted the misrepresentation exclusion. *United Airlines v. Wiener*, 335 F.2d 379 (9th Cir. 1964). *Eastern Airlines v. Union Trust Company*, supra. In some of the cases, it has not even asserted the exclusion provision of (a). *Somlo v. United States*, 274 F. Supp. 827 (D.C. N.D. Ill. 1967). *Wiener*, supra, appears to be similar in the type of claim that was made against the Government but no misrepresentation was claimed. In *Eastern Airlines*, supra, the control tower operators were found to be negligent in failing to issue a timely warning to the pilots of two planes approaching the runway and the Court found that tower operators merely handle operational details which were outside the area of the discretionary function and duties referred to in 2680(a). In *Stork v. United States*, 278 F. Supp. 869 (D.C. S.D. Cal. 1967), the failure of airport tower controllers to deny takeoff clearance to the pilot of a chartered aircraft because visibility was below Federal Aviation Agency minimums and failure to warn a pilot not to take off and that if he did, he would be breaking the law, constituted negligence which was the proximate cause of the

aircraft crash. And in that case the claim of the Government that the function of the tower to deny clearance or warn the pilot is discretionary was rejected. In that case, also, the Government did not assert the misrepresentation exclusion.

In the final analysis, the failure of the tower to cancel or withhold the takeoff clearance in the light of its own observations and the weather information which it had was a proximate cause of the fatal crash. This is not "misrepresentation." It is clear negligence.

VI. The Findings of Fact Were Based Upon Substantial and Convincing Evidence

In considering the contentions of Appellant it should be borne in mind, as set forth in the provisions of Rule 52(a) of the Federal Rules of Civil Procedure, that "Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses."

And it will also be appropriate to bear in mind as stated in *Schilling v. Schwitzer-Cummings Co.*, 79 App. D.C. 20, 142 F.2d 82, 84 (1944) and *Carr v. Yokohama Specie Bank, Ltd.*, 200 F.2d 251, (9th Cir. 1952) that:

"The ultimate test as to the adequacy of findings will always be whether they are sufficiently comprehensive and pertinent to the issues to provide a basis for decision, and whether they are supported by the evidence."

And see *Summerbell v. Elgin National Watch Company*, 94 App. D.C. 220, 215 F.2d 323. These tests as applied to the record in this case demonstrate the correctness of the lower court's decision.

It is the duty of the trial court in this situation to appraise all facts adduced in proof, to weigh the evidence, and to choose from among conflicting factual inferences

those which it considered most reasonable. Under such circumstances, the power of an Appellate Court is limited to a determination of whether those inferences and conclusions have any substantial basis in the evidence. *Penn-Texas Corp. v. Morse*, 242 F.2d 243 (7th Cir. 1957).

CONCLUSION

The trial Court carefully weighed the testimony, its findings were clearly supported by the evidence and the Judgment should be affirmed.

Respectfully submitted,

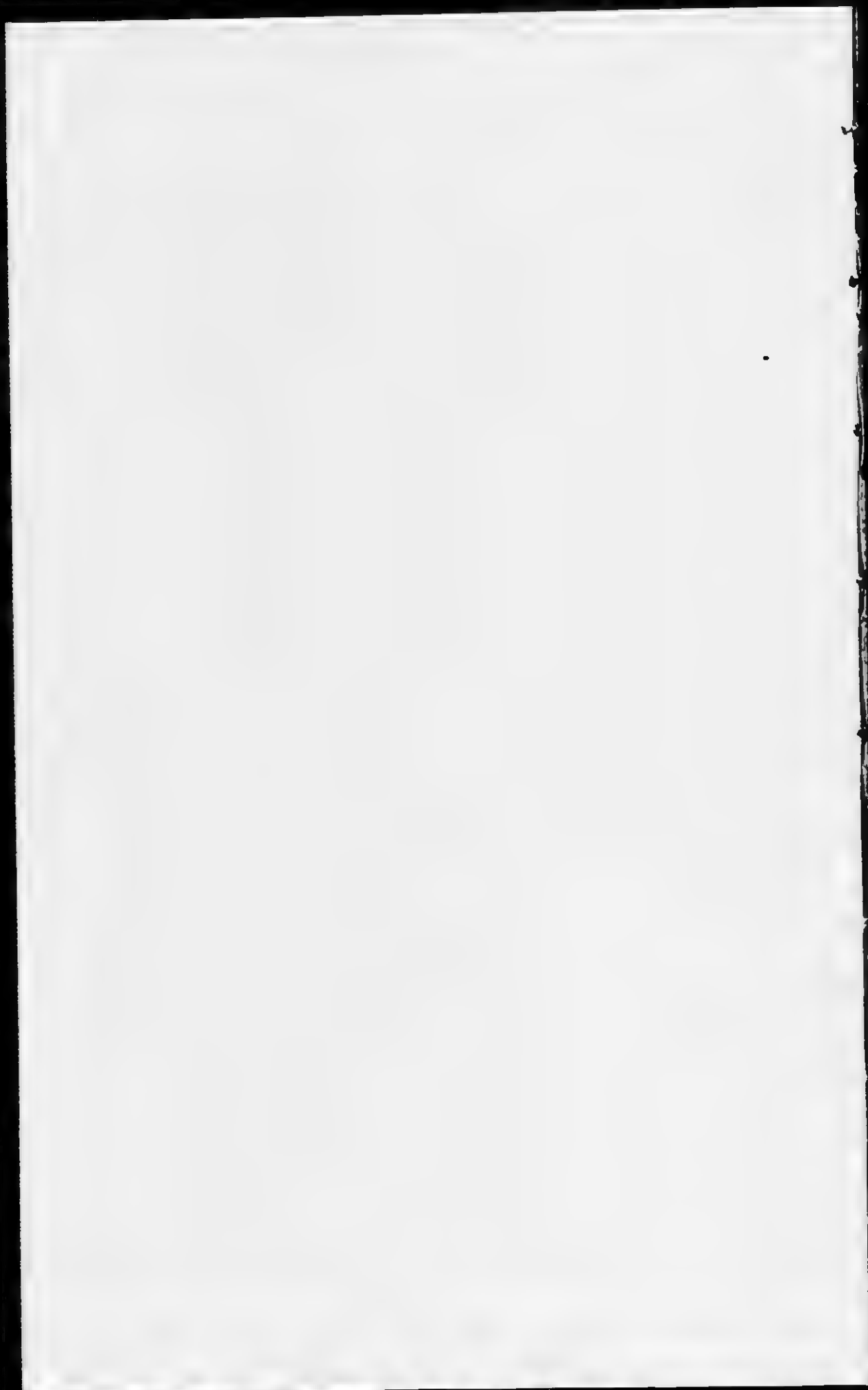
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PETITION FOR REHEARING OF APPELLEE, JOAN S.
NEFF, ADMINISTRATRIX OF THE ESTATE OF JOHN
W. NEFF, WITH A SUGGESTION THAT IT BE EN
BANC

IN THE
United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 22,262

JOAN S. NEFF, Administratrix of the Estate of JOHN W.
NEFF, *Appellee*

v.

UNITED STATES OF AMERICA, *Appellant*

Appeal From the United States District Court for the
District of Columbia

United States Court of Appeals
for the District of Columbia Circuit

FILED OCT 23 1969

Nathan J. Paulson
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IN THE
United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 22,262

JOAN S. NEFF, Administratrix of the Estate of JOHN W.
NEFF, *Appellee*

v.

UNITED STATES OF AMERICA, *Appellant*

Appeal From the United States District Court for the
District of Columbia

PETITION FOR REHEARING OF APPELLEE, JOAN S.
NEFF, ADMINISTRATRIX OF THE ESTATE OF JOHN
W. NEFF, WITH A SUGGESTION THAT IT BE EN
BANC

Petitioner respectfully petitions for rehearing by a three-judge division of this Court of the appeal in which a two-judge division entered judgment on October 10, 1969, and, pursuant to Rule 35 of the Federal Rules of Appellate Procedure and Rule 14 of the Rules of this Court, suggests that the proceedings involve questions of exceptional importance and the appeal should be heard en banc.

PRELIMINARY STATEMENT

The decision of the division of this Court is a shocking invasion of the trial judge's function in a case tried without a jury and contrary to standards for judicial review long established by this and other Federal Appellate Courts.

The decision in this case is a calamity to the family of John W. Neff who was killed in an airplane accident. Heaped on top of the irreplaceable loss of a husband and father, is the stigma of negligence in the pursuit of a chosen profession.

These circumstances require a ruling of this Court that must be absolutely right, legalistically and procedurally. If the decision is not sound and correct beyond every peradventure, it should not be permitted to stand.

Hereinafter, appellee will respectfully undertake to demonstrate the egregious errors which the two-judge Court committed. Before embarking on that undertaking appellee submits that a rehearing should be granted because of the fact that a judge was missing in the division of the Court. The footnote on the first page of the opinion states that "Circuit Judge Burger (now Chief Justice) did not participate in the disposition of this case." This is not an attack on the two-judge quorum rule established by Congress under Section 46 of Title 28, U. S. Code. Instead, it is an appeal to the fundamental fairness of the Court that a decision having such dire effects deserves to be the product of at least a usual three-judge panel or division. A dissenting opinion by one-third of the Court might be the reason for the Supreme Court of the United States to grant review of this case.

This is a case in which the division of this Court in a non-jury trial has usurped the function of the lower Court trial judge both as to the application of Rule 52(a) Federal Rules of Civil Procedure and in holding that decedent Neff was guilty of contributory negligence as a matter of law.

FACTUAL BACKGROUND

John W. Neff, a first officer on a Mohawk Airlines flight, was killed in a plane crash on July 2, 1963. The plane crashed upon entering a thunderstorm shortly after take-off. His widow and administratrix, appellee, brought suit against the United States under the Federal Tort Claims Act, alleging negligent operation of the control tower which cleared the plane for take-off and the U. S. Weather Bureau at the airport. In a detailed, well-reasoned opinion (App. 20-44), United States District Court Judge Gerhard Gesell found the United States guilty of numerous acts of negligence, and specifically found that First Officer Neff, who was not the Captain of the aircraft and who did not make the decision to take off, was not guilty of contributory negligence. In reversing, the two-judge division of this Court expressly refrained from ruling on the Government's negligence and reversed on the sole ground that Mr. Neff was guilty of contributory negligence. Surprisingly, Judge Tamm in speaking for the division did not take issue with "the evidentiary facts"—the sequence of events found by the trial Court. He disagreed only with the "ultimate finding" on the issue of contributory negligence. In so holding, the division must have found that the contrary finding of the trier of facts, the trial judge, was "clearly erroneous" as provided in Rule 52(a) of the Federal Rules of Civil Procedure or it would have had no basis for reversal. However, the opinion makes no other reference to erroneous findings.

POINTS OF FACT AND LAW WHICH IN THE OPINION OF PETITIONER THE PETITIONER CLAIMS THE DIVISION HAS OVERLOOKED OR MISAPPREHENDED

1. The division completely overlooked or rejected the voluminous uncontradicted evidence establishing the supreme command of Captain Dennis who was the final authority in command of the plane and the man who decided that take-off was to be made. If the division, as

it said, did not take issue with the evidentiary facts found by the trial court, it was required to accept the findings on this point. Captain Dennis had full command responsibility for the flight at all relevant stages and First Officer Neff was subject to his orders and command.

Mr. Neff's negligence is found to be solely his decision to take off under existing weather conditions. There is no allegation, or finding, that he was negligent in his operation of the aircraft. Yet it is undisputed that the decision to take off was not made by Mr. Neff but by the aircraft commander, Captain Dennis, who was operating the radio and was in communication with the aircraft tower.

2. The findings and conclusions of the Court below were not clearly erroneous within the meaning of Rule 52(a) of the Federal Rules of Civil Procedure. On the contrary, they were fully supported by the evidence and were correct. The division, contrary to Rule 52(a) and the many Circuit Court decisions interpreting said rule, erroneously substituted its judgment on a question of fact—contributory negligence—for that of the trier of fact.

The division in effect approved of the findings of the trial judge, except when it came to what it called the ultimate finding, that decedent was guilty of contributory negligence. In effect, it then said, we disagree with the trial judge. This it could not properly do because it was in reality substituting its judgment for that of the trial judge, the finder of the same facts which the Appellate Court had accepted.

The Court has found that Mr. Neff's attempt to take off into an obvious thunderstorm constituted contributory negligence as a matter of law. In the last paragraph of its opinion it points out "that the wall of rain, together with the warnings received and the other indicia of the impending storm, should have made it obvious to the crew

that there was at least a substantial risk they would encounter severe turbulence and other dangerous weather phenomena before they reached a safe altitude. Their attempt to take off in disregard of compelling signs of immediate danger was contributory negligence * * *." This is unquestionably a finding of fact. If, as the Court has previously stated, it did not take issue with the evidentiary facts—the sequence of events—found by the trial Court, there was no possible basis for this finding. Judge Gesell found that neither Captain Dennis nor Mr. Neff would have taken off if they knew they were taking off directly into the heart of a thunderstorm then hitting the field. (J.A. 37). The Court further stated

"a takeoff in heavy rain is not the same as a take-off into a thunderstorm. The first is not unusual; the latter is dangerous and contrary to sound operating practice.

"Thunder and lightning are the indicia of a thunderstorm as distinguished from a rainstorm. It is highly questionable that the crew was aware that the rain wall contained a thunderstorm or were aware of the speed of its approach."

3. Nor was this the exceptional or unusual case permitting the finding by the Appellate Court of contributory negligence as a matter of law. It was a question of fact properly decided by the trial judge in a well documented opinion setting forth substantial reasons why First Officer Neff was not guilty of contributory negligence.

4. The division of this Court also erred in its narrow concept of the duty of FAA and Weather Bureau personnel, as expounded on pages 11 and 12 of the slip opinion, and rejected the leading Circuit Court cases of *Ingham v. Eastern Air Lines, Inc.*, 373 F.2d 227 (2d Cir. 1967); *Hartz v. United States*, 387 F.2d 870 (5th Cir. 1968); and *United States v. Furumizo*, 381 F.2d 915 (9th Cir. 1967).

ARGUMENT

The most disturbing aspect of the substitution of judgment by the division of this Court for the findings of the trial judge is that the sole basis of the division's finding of contributory negligence was the fact that the plane took off into a thunderstorm, and the decision thus to take off constituted contributory negligence. Yet it is contradicted in the record, in the testimony of (1) a Delta Airlines Captain; (2) a former Mohawk Captain; and (3) a Mohawk First Officer; all of whom testified in person and not by deposition, as well as in a Government Regulation, that the decision to take off was that of the Captain and not the First Officer. The division of the Court does not even discuss the question of whose decision it was to take off, although a substantial portion of both the trial and the Appellate briefs was devoted to this question. Indeed, the division makes no distinction between Captain and First Officer, and lumps both together as "pilot" or "crew". The distinction between Captain and First Officer is crucial and, it is respectfully submitted, in a case of this magnitude involving important principles of air safety, it should not be disregarded.

The failure of the division to appreciate the different roles of Captain and First Officer is illustrated as follows:

The division says:

"... the fact that the duty to exercise final judgment is reposed in the *pilot* necessarily requires him to be alert to last minute changes outside the airplane as a possible reason for either aborting the flight on his own responsibility or seeking further data from the controller." (Slip opinion, pages 10-11)

"... the ultimate decision is the *pilot's*." (Slip opinion, page 10.)

"... the *pilot's* decision to go ahead as cleared reflected lack of due care." (Slip opinion, page 11).

"Their [i.e., Captain and First Officer together] attempt to take off, in disregard of compelling signs

of immediate danger, was contributory negligence and thus the judgment for the plaintiff-appellee must be reversed." (Slip opinion, page 13).

It is not clear to whom the division refers when it speaks of "pilot". If it refers to Captain Dennis, then it is correct in its appraisal of the Captain's authority and responsibility, but is clearly erroneous in imputing Captain Dennis' alleged negligence to First Officer Neff. If by "pilot" the division refers to Mr. Neff—who was at the controls during takeoff—then the division is clearly in error because the uncontradicted evidence is that the decision to take off is not that of the First Officer—be he at the controls or not—but of the Captain.

Consider the testimony of Mohawk Captain Brown (who testified at trial, not by deposition):

"Q. Is it the First Officer or the Captain, under company regulations, who had final authority with respect to whether to take off or not to take off?

"A. The Captain.

"Q. The Court: And that is true, is it, even if the co-pilot is at the controls and who is the man who is actually going to take the aircraft off?

"The Witness: That is true. That is definitely true." (App. 211, Appellee's Brief 42).

And former Mohawk Captain Loudin, a Government witness (who testified at trial, not by deposition):

"Well, the Captain was the pilot in command and the other crew members were to follow his instructions and all his orders, legal and lawful orders, were to be obeyed." (App. 441, Appellee's Brief 43).

And Delta Airlines Captain Meek, a veteran of several decades of commercial flying (who testified at trial, not by deposition):

"Q. You have been a co-pilot?

"A. Yes. The Captain is in complete charge of the airplane and I think this should be very clear . . .

One man can only make a decision and we don't vote on it. The problem is that the Captain is the most experienced man in the cockpit and he is the man certificated to take the action. The co-pilot's job is to assist the Captain and he is in an advisory capacity. Now, certainly there is a grey area here that if we are going to fly the airplane into a mountain, this is a completely different situation than some discussion as to whether weather minimums exist or not." (App. 200, 201, Appellee's Brief 42).

Finally, Civil Air Regulation 60.2 states:

"The pilot in command of the aircraft shall be directly responsible for its operation and shall have final authority as to the operation of the aircraft."

In the face of this overwhelming and uncontradicted evidence the trial Court found:

"Captain Dennis still had full command responsibility for the flight at all relevant stages and First Officer Neff was subject to his orders and command . . . The situation as [Neff] then saw it did not warrant his taking the extreme step of disobeying Captain Dennis' orders at takeoff." (App. 38).

The Division completely overlooked or rejected the uncontradicted voluminous testimony establishing the supreme command of Captain Dennis who at all times was the final authority and the man who decided that take off was to be made. If the Court, as it said, did not take issue with the evidentiary facts found by the Court, it was required to accept the findings on this point. Captain Dennis, the lower Court found, still had full command responsibility for the flight at all relevant stages and Mr. Neff was subject to his orders and command.

In view of the evidence quoted above, it is difficult to conceive of how the Court below could have been clearly erroneous in finding that the decision to take off was that of the Captain and not First Officer Neff. Yet if, in fact,

the decision was Captain Dennis' and not Mr. Neff's, it is even more difficult to see how Mr. Neff can be held liable for Captain Dennis' decision. That, however, is what the division of this Court has done.

It is respectfully submitted that it was the division of this Court that was clearly erroneous in coming to a contrary conclusion holding Mr. Neff responsible for the decision to take off. There is *no* evidence in the entire record which supports such a conclusion.

RULE 52(a)

While nowhere in its opinion does the division refer to Rule 52(a) of the Federal Rules of Civil Procedure, it is clear that a verdict for a plaintiff in a negligence action will stand on appeal even though the Appellate Court might have arrived at a different conclusion on the same record. Further, that this Court cannot properly set aside findings of fact unless they are clearly erroneous and due regard shall be given to the opportunity of the trial Court to judge of the credibility of the witnesses. Rule 52(a) of the Federal Rules of Civil Procedure.

In *Socash v. Addison Crane Co. Inc.*, 120 U.S. App. D.C. 308, 346 F.2d 420, this Court in a non-jury case stated:

"* * * the question is not whether on the record, as we now read it, we would have reached the same result, but whether there is substantial evidence to support the findings and conclusions of the trier of facts, who heard all the evidence and saw all the witnesses. We are not free to retry the issues or evaluate credibility of expert testimony; rather we are limited to deciding whether the choice made by the trier, in this case a judge, was a permissible choice under the evidence. This is true even though, on the cold record as we now read it, we might be inclined to draw different inferences and reach a different result. The limitations on appellate review are set

forth in Fed. R. Civ. P., Rule 52(a), as to cases tried without a jury:

‘Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge the credibility of the witnesses.’ * * *

Here, although the physical facts as to what happened are not significantly disputed, the expert testimony is in sharp conflict and that testimony is critical. Justice Douglas, in *United States v. National Association of Real Estate Boards*, 339 U.S. 485, 495-496, 70 S.Ct. 711, 707, 94 L.Ed. 1007 (1950), aptly bounded the scope of our review:

‘It is not enough that we might give the facts another construction, resolve the ambiguities differently, and find a more sinister cast to actions which the District Court apparently deemed innocent. See *United States v. Yellow Cab Co.*, 338 U.S. 338, 342 [70 S.Ct. 177, 179, 94 L.Ed. 150]; *United States v. [United States] Gypsum Co.*, 333 U.S. 364, 394-395 [68 S.Ct. 525, 541, 92 L.Ed. 746]. We are not given those choices, because our mandate is not to set aside findings of fact “unless clearly erroneous.” ’ ’ ’

This Court, as have most if not all of the other Courts of Appeal, has dealt with the question of negligence as if it were one of fact, subject to the clearly erroneous rule. *Rederi A/B Soya v. SS Grand Grace*, 369 F.2d 159, a 9th Circuit 1966 case.

And in *Chaney v. City of Galveston*, 368 F.2d 774, a 5th Circuit 1966 case, approving *Smith v. United States*, 287 F.2d 299, the Court stated:

“ ‘The attack on the Court’s findings of fact is the not unnatural one that the Trial Judge ought not to have found as he did. But this misconceives our function. We do not retry the case. *Williams v. National Surety Corp.*, 5 Cir., 1958, 257 F.2d 771, 773. We may determine only whether the findings pass muster under the clearly erroneous concept of F.R.

Civ. P. 52(a), 28 U.S.C.A. The burden of upsetting these findings is indeed formidable here since the witnesses were all heard and seen by the Judge in open court and the crucial issues of motive and purpose involved credibility choices of the most elemental nature.' A finding is clearly erroneous when, although there is evidence to support it, the reviewing court on the entire evidence is left with a definite and firm conviction that a mistake has been committed. Where the evidence would support a conclusion either way, a choice by the trial judge between two permissible views of the weight of evidence is not clearly erroneous, and the fact that the judge totally rejected an opposed view impeaches neither his impartiality nor the propriety of his conclusions. Such total rejection cannot of itself impugn the integrity or confidence of the trier of fact. It is well settled that in order for a reviewing court to set aside findings of fact by a trial court sitting without a jury, it must be clearly demonstrated that such findings are without adequate evidentiary support in the record, or were induced by an erroneous view of the law, and the burden of showing that the findings are clearly erroneous is on the one attacking them."

Judge Tamm has stated only " * * * that the ultimate finding on the issue of contributory negligence was erroneous." If the law of this jurisdiction is as enunciated by this Court in *Socash, supra*, then it seems apparent that the division apparently has disregarded not only this Court's previous ruling but has acted contrary to a long line of decisions of other Circuit Courts interpreting Rule 52 of the Federal Rules of Civil Procedure.

The finding of the trial Court that the decision to take off was that of Captain Dennis is conclusively supported by the evidence, as shown above. Even assuming, *arguendo*, that the decision to take off could be placed with Co-pilot Neff, the findings of the Court below that the crew, i.e. Dennis and Neff, were unaware that a thunderstorm—as opposed to rain—was on the field was fully supported by the evidence. Judge Tamm purports to accept this and

all other factual findings. (Slip opinion Page 4). Captain Dennis told the Controller, "We would like to make a left turn as soon as practicable to avoid those thunderstorms coming in from the west." (App. 25). This message should have put the tower on warning that Captain Dennis, whose decision it was as to whether to take off, did not know the thunderstorm was on the field. Linked to this evidence is the fact that visibility from the cockpit is not that good, and from a cockpit it is difficult to judge the speed of a storm approaching from directly in front. The division of this Court may say:

"Unlike the trial court, we are unable to attribute substantial significance to the fact that 'it is difficult to judge speed of storms when in a cockpit on a runway'." (Slip opinion, page 12).

but when the trial court arrived at its conclusion it did so with the full agreement of experienced pilots and in conformity with uncontradicted evidence. For example, Captain Meek testified:

"Visibility, if there is rain on the windshield, is not of the best. From this height it is pretty hard to judge movement across a horizontal surface, much harder than it would be if you were above it [i.e. if you were in the tower]."

and

"The problem in viewing a storm from head-on in an airplane on the ground is the fact that you are fairly close to the ground, you do have the restriction of visibility due to windshield. . . The thing I am trying to say is visibility is not of the best and to view a storm head-on, you don't have much relative motion from the storm, and from the side you would." (App. 187)

The fact is that the evidence fully supports the trial Court's conclusions with respect to the ability of Captain

Dennis and First Officer Neff to judge whether a thunderstorm was on the field, and it is undisputed evidence that Government personnel on the field were tracking the storm on radar, had a better vantage point to see it, and knew exactly where it was; further this crucial information was not transmitted to the airplane.

The findings of the trial Court are set forth in detail and with care in a lengthy opinion. This petition cannot review them all. They fully support the proposition that even if Mr. Neff had had responsibility for the take off—which he did not—he would not have been guilty of contributory negligence.

**CONTRIBUTORY NEGLIGENCE HERE WAS A QUESTION
TO BE DECIDED BY THE TRIER OF THE FACTS**

It is only in the exceptional case that the question of contributory negligence passes from the realm of fact to law. This was not such a case and it cannot be said, as is required in finding contributory negligence as a matter of law, that all reasonable men in the exercise of a fair and impartial judgment would have decided that decedent Neff was contributorily negligent as a matter of law. *Casper v. Barber and Ross Company*, 109 U.S. App. D.C. 395, 288 F.2d 379, *Muldrow v. Daly*, 117 U.S. App. D.C. 318, 329 F.2d 886, *Gunning v. Cooley*, 381 U.S. 90, 94, *McGettigan v. National Bank of Washington*, 115 U.S. App. D.C. 384, 320 F.2d 703.

The opinion of Judge Tamm, page 3, refers to two New York cases supporting the principle that "contributory negligence as a matter of law is usually established only upon unusual or exceptional factual situations". *Greenlish v. New York Central R. Co.*, 29 App. Div. 2d 159, 286 N.Y. Supp. 2d 61 and *Tyrell v. New York*, 6 App. Div. 2d 958, 176 N.Y. Supp. 2d 530. This is not the unusual or

exceptional factual situation contemplated by the cases. *Tyrell, supra*, said:

“Certain it is that, when there is a decision for the defendant by the trier of facts * * *, the Court is not justified in setting it aside as against the weight of evidence unless it can be plainly seen that the preponderance in favor of the plaintiff is so great that the trier of facts could not have reached the conclusion upon any fair interpretation of the evidence.”

The law in the District of Columbia, it is submitted, is no different and that only in an exceptional case where facts are undisputed and but one reasonable inference can be drawn is the Court justified in holding that contributory negligence has been established as a matter of law. *Singer v. Doyle*, 236 Atl. 2d 436, *Carter v. Singleton*, 219 A. 2d 114, District of Columbia Court of Appeals cases.

And *Kenton v. State*, 285 N.Y. Supp. 2d 758, points out that “the issue of contributory negligence is peculiarly within the province of the trier of the facts.”

It is clear that the question of contributory negligence was one to be decided by the Court below and that the trial judge reached a fair and impartial judgment which is not properly the subject of attack in this Court.

PUBLIC POLICY INVOLVED

Pages 11 and 12 of the slip opinion set forth a concept of the duties and responsibilities of Government airport personnel dangerously narrow and at variance with recent holdings of the Second Circuit in *Ingham v. Eastern Airlines, Inc.*, 373 F.2d 277 (1967), and of the 5th Circuit in *Hartz v. United States*, 387 F.2d 870 (1968). The division of this Court italicizes the word “may” in a regulation dealing with the duty to provide weather information to aircraft. (Slip opinion page 11). A contrary philosophy, one more consistent with the public interest, is set forth in *United States v. Furumizo*, 381 F.2d 965, 968 (9th Cir.

1967), also a plane crash case in which tower personnel were negligent, in which the Court said:

"... the regulations and manual do not make mere automata of the controllers. Their job requires that they act in the interest of safety, and it would be strange indeed if that overriding duty did not include an obligation to seek, by appropriate instructions, to warn a pilot who is starting to take off when it is apparent to them that he will encounter a severe hazard."

This language is appropriate in the instant case.

CONCLUSION

In conclusion, it is respectfully submitted that the division of this Court should grant a rehearing in the face of its clear and apparent error. Appellee also suggests that in view of the importance of this case, that an en banc rehearing be granted. She appreciates the fact that petitions for rehearing en banc are not to be lightly filed. In this case, which involves so much to the parties, and in which detailed findings by the trial Court were set aside by a two-judge division, and in which crucial findings of the trial Court were disregarded without discussion, appellee respectfully submits that a rehearing en banc is called for in the interest of justice.

Respectfully submitted,

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